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4/25/91

SCREENING SITE INSPECTION REPORT  
FOR

T. O. PLASTICS  
CLEARWATER, MINNESOTA  
U.S. EPA ID: MND006171847  
SS ID: NONE  
TDD: F05-8811-003  
PAN: FMN0188SA

APRIL 25, 1991



**ecology and environment, inc.**

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:  
5HR-11-SSI

Ron Swenson, Supervisor  
Site Response Section  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, Minnesota 55155

Site Name: T.O. PLASTICS  
Location: CLEARWATER, MN  
U.S. EPA ID#: MND0006171877  
Date: 4/30/91

Dear Mr. Swenson:

Attached is a copy of the screening site inspection report (SSIR) which has been prepared for the site listed above. This document is considered to be final and any changes and modifications based on comments made by your agency and the U.S. Environmental Protection Agency (U.S. EPA) during the 30 calendar day comment period have already been incorporated.

Because this is considered to be the final form of this document, this version of the SSIR may be distributed outside of your agency without prior notification and approval of U.S. EPA.

Please remember that the revised estimate of the Hazard Ranking System (HRS) score, which has already been furnished to your agency by FIT is still considered to be predecisional. Therefore, it should not be released. If you have any questions concerning the release of this information, please contact Ms. Jeanne Griffin, of my staff, at (312) 886-3007.

As was previously agreed upon, one set of original photographs for this SSIR has already been sent to your agency enclosed in the draft version of this SSIR. It is your agencies responsibility to see that these photographs are mounted in the photo logs enclosed in the final version of this SSIR. At this point the final version of the SSIR supersedes the draft version and the draft version of this SSIR should be removed from your agency files to ensure that the confidential draft version of this SSIR is not inadvertently released by your staff.

If you have any comments or questions, please contact Bill Messenger at (312) 353-1057.

Sincerely yours,

A handwritten signature in cursive script that reads "Thomas F. Geishecker".

Thomas F. Geishecker  
Technical Support Section  
Enclosure  
cc: Bill Messenger

SIGNATURE PAGE  
FOR  
SCREENING SITE INSPECTION REPORT  
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T. O. PLASTICS  
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U.S. EPA ID: MND006171847  
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## 1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the T. O. Plastics (TOP) site under contract number 68-01-7347.

The site was initially identified during a Minnesota Pollution Control Agency (MPCA) inspection in August 1981. The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Michael Connally of MPCA, and is dated January 7, 1986.

FIT prepared an SSI work plan for the TOP site under technical directive document (TDD) F05-8706-163, issued on June 5, 1987. The SSI work plan was approved by U.S. EPA on October 27, 1988. The SSI of the TOP site was conducted on June 20, 1989, under TDD F05-8811-003, issued on November 8, 1988.

The FIT SSI included interviews with site representatives, a reconnaissance inspection of the site, and the collection of six soil samples and two groundwater samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality ob-

jectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

## 2. SITE BACKGROUND

### 2.1 INTRODUCTION

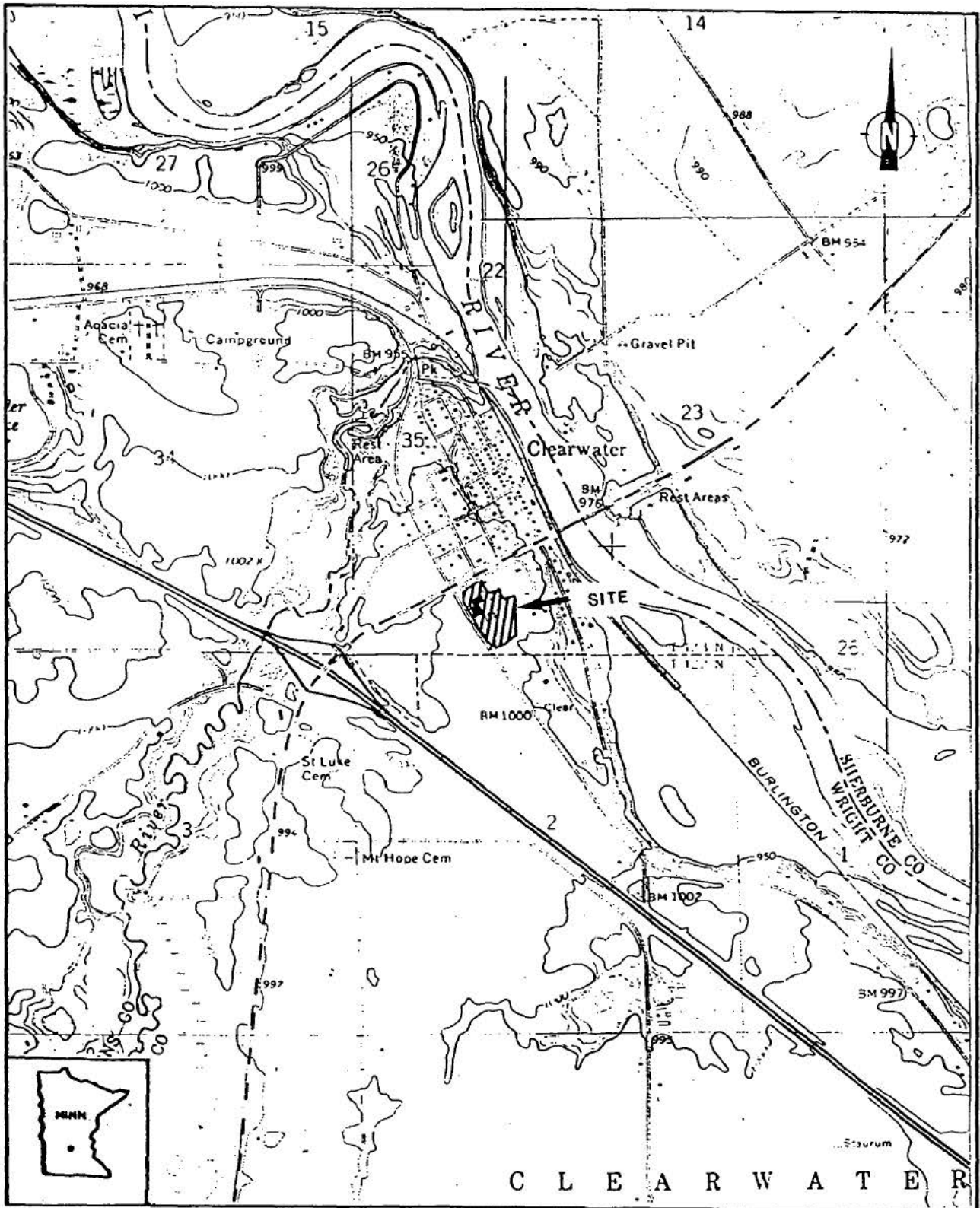
This section includes information obtained from SSI work plan preparation, the site representative interview, and a reconnaissance inspection of the site.

### 2.2 SITE DESCRIPTION

The TOP site is an active plastics facility where vacuum forming operations have taken place since 1958, and expandable polystyrene molding operations since 1975 (Engler, Helget, and Luhman 1989). The site is located on an approximately 12-acre parcel of land in the village of Clearwater, Minnesota, approximately 1,300 feet west-northwest of the Mississippi River, in Wright County (S1/2 sec. 35, T.123N., R.27W.), at 830 County Road 75 (see Figure 2-1). A 4-mile radius map of the TOP site and surrounding area is provided in Appendix A.

### 2.3 SITE HISTORY

The TOP site is owned and operated by T.O. Plastics of Minneapolis, Minnesota. T. O. Plastics began operating its plastics facility in Clearwater in 1958. Prior to the construction of the T.O. Plastics facility, the property was used for agricultural purposes. The main plant on-site, Plant 105, produces parts by vacuum forming. In the manufacturing process, acrylonitrilebutadiene styrene (ABS) pellets are heated and formed into pliable sheets. The sheets are placed in contact with the surface of a mold, and a vacuum system then draws air against the mold. The plastic material then cools and sets in the desired form.



SOURCE: Ecology and Environment, Inc. 1991; BASE MAPS: USGS, Clearwater, MN Quadrangle, 7.5 Minute Series, 1974.

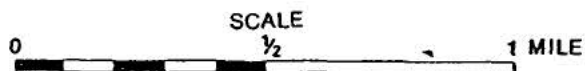


FIGURE 2-1 SITE LOCATION

In 1975, T. O. Plastics constructed a second manufacturing facility, on property located south of Plant 105. This second facility, where the expandable polystyrene molding processes now take place, is called the bead plant. In this manufacturing process, polystyrene beads are subjected to steam processes, which expand the beads and allow the desired molding processes to occur (Engler, Helget, and Luhman 1989). The products are lightweight, styrofoam-like pieces used as cushioning material in packages.

According to MPCA records, two types of wastewater were discharged onto the ground of the site. One type was steam generator blow-down wastewater, with softening and descaling agents that may have contained small amounts of chromium. The other type was the wastewater discharged from a vacuum pump. The mixture of these wastewaters was discharged from Plant 105 to an on-site ditch. The wastewater then flowed to a low-lying field in the central area of the site, where it formed a pond. During an MPCA inspection in August 1981, the vacuum pump wastewater was found to have a "strong, questionable odor" (MPCA 1986).

No federal or state regulatory enforcement actions have occurred at the TOP site.

### 3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

#### 3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the TOP site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted with minor alterations from the U.S. EPA-approved work plan because one of the two Clearwater municipal wells was unavailable for sampling. An on-site drinking water well was substituted.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the TOP site is provided in Appendix B.

#### 3.2 SITE REPRESENTATIVE INTERVIEWS

Daniel Sullivan, FIT team leader, conducted site representative interviews with Ken Engler, Bead Plant Manager, and Leonard Helget, Plant 105 Manager, on June 20, 1989. Present at both interviews were Violet Luhman, Operations Manager for T. O. Plastics, and Mike Phillips of FIT. The interview with Leonard Helget was conducted in the Plant 105 office at 8:35 a.m. The interview with Ken Engler was conducted in the bead plant office at 9:10 a.m. The interviews were conducted to gather information that would aid FIT in conducting SSI activities.

#### 3.3 RECONNAISSANCE INSPECTION

Following the site representative interviews, FIT conducted a reconnaissance inspection of the TOP site and surrounding area in accordance with Ecology and Environment, Inc. (E & E), health and safety

guidelines. The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. FIT also determined sampling locations during the reconnaissance inspection.

FIT team members arrived at the site at 8:23 a.m. on June 20, 1989. The reconnaissance inspection commenced at approximately 10:30 a.m. Violet Luhman accompanied FIT during the reconnaissance inspection.

Reconnaissance Inspection Observations. The TOP site is located in Clearwater, Minnesota, near the intersection of Highway 152 (County Road 75) and Highway 24 (State Highway 240) (see Figure 3-1 for locations of site features). Land use surrounding the site is primarily commercial and residential. The site is bordered on the north by Highway 24 and on the east by Porter Street. Land south of the site is owned by the Village of Clearwater, and contains a water tower, a municipal well house, and a community center. The site is bounded on the west by Highway 152.

There is no fence or other definition of the boundary between the site and adjacent property. Access to the TOP site is through a driveway off of Highway 24, which runs east of Plant 105. On-site roads, driveways, and parking lots have gravel surfaces. Photographs of the TOP site are provided in Appendix C.

The operations at Plant 105 involve the main plant building and four warehouses. A group of three warehouses is located immediately east of the main building and a fourth warehouse stands 100 feet north-east of the building. The main building is used for the vacuum molding operation; the warehouses are used for storage of equipment and raw materials. Plant 105 is L-shaped, with one wing oriented to the north-east and the major wing oriented southeast. Silos near the southeast corner of the building are used for storage of ABS pellets.

FIT observed water flowing from a pipe protruding from the main building's exterior wall near the silos. According to Helget, the water is used to cool vacuum pumps and is discharged to the ground (Helget 1989). The discharge water observed by FIT flowed into a ditch running south-southeast past the warehouses, east to a low-lying area southeast of the warehouses, and then to the central portion of the site, where it



formed a pond of standing water. FIT observed 55-gallon barrels inside and outside each of the three warehouses nearest Plant 105. Inside the warehouse closest to the building, approximately eight or nine barrels were observed. One was labeled perchloroethylene, one ethylene glycol, and the remaining barrels had no visible markings. Beside the eastern exterior wall of the third warehouse, FIT observed barrels that contained "cut-back" asphalt (Engler, Helget, and Luhman 1989). According to site representatives, T. O. Plastics may be using the asphalt on its roads at a future date.

The other T. O. Plastics facility, the bead plant, is located near the south boundary of the site and consists of a single square building where the company's polystyrene molding operations occur. A loading area, consisting of two elevated garage doors, is located on the south face of the building. A 270,000-gallon cooling pond is located approximately midway between the two plant buildings. T. O. Plastics uses the pond as a source of cooling water for molds and machinery in the bead plant and Plant 105 (Engler, Helget, and Luhman 1989). The pond is encircled by a barbed wire fence and a pump house is located east of the pond. The pond is lined with concrete and its water is constantly recycled. T. O. Plastics operators clean the pond every 2 to 3 years by pumping the pond water onto the ground. The concrete is then sprayed with a sealant and the pond is refilled (Helget 1989).

FIT observed two propane tanks on-site: one located approximately 50 feet north of Plant 105, and the other located approximately 170 feet east of the bead plant. The north tank was surrounded by a fence; the other tank was unfenced.

The site terrain sloped slightly downward toward the east, to the area in the center of the site where the discharge water collected. Site property east of the buildings and of the ponded water was vegetated with tall grasses and some trees.

### 3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine whether U.S. EPA Target Compound List (TCL) compounds and U.S. EPA Target Analyte List (TAL) analytes were present at the site. The TCL and TAL, with corresponding quan-

titiation/detection limits, are provided in Appendix D. On June 20, 1989, FIT collected five surface soil samples and one potential background surface soil sample. Samples from one municipal well and one on-site drinking water well were also collected by FIT. A portion of each sample was provided to site representatives.

Soil Sampling Procedures. Surface soil sample S1 was collected from a loading area on the northeast wing of Plant 105 (see Figure 3-2 for soil and groundwater sampling locations). This location was chosen because of its proximity to potential runoff from the loading dock.

Surface soil sample S2 was collected in the low-lying central area of the site, at the western edge of the ponded discharge water. Surface soil sample S3 was collected on the south side of the bead plant, from a pile of soil below one of the doors of the loading area. This location was chosen because of its proximity to the loading dock.

Surface soil sample S4 was collected from an area between the silos and the ditch near the southeast corner of Plant 105. The location was chosen because of its proximity to the point where the wastewater discharges from Plant 105. Surface soil sample S5 was collected from a walkway between Plant 105 and the door of the warehouse where barrels were observed. This location was chosen because of its proximity to the barrels in the warehouse.

Surface soil sample S6 was collected off-site as a potential background soil sample from a grassy area approximately 120 feet east of the site boundary. The background soil sample was collected to determine the representative chemical content of the soil in the area surrounding the site. The location was chosen because the ground surface appeared to be undisturbed.

Hand trowels were used to collect all soil samples. A hole 4 to 5 inches deep was excavated with the hand trowel. Sample material from the hole was transferred to a stainless steel bowl using the trowel. Samples were mixed in the bowl and then placed in sample bottles using the trowel (E & E 1987).

Standard E & E decontamination procedures were adhered to during the collection of all soil samples. The hand trowels and bowls were scrubbed with a solution of Alconox detergent and distilled water, and triple-rinsed with distilled water before the collection of each soil



sample (E & E 1987). All soil samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, soil samples S1, S2, S3, S4, S5, and S6 were analyzed under the U.S. EPA Contract Laboratory Program (CLP) for TCL compounds by American Analytical and Technical Services of Broken Arrow, Oklahoma, and for TAL analytes by Columbia Analytical Services of Longview, Washington.

Groundwater Sampling Procedures. One municipal well (RW1) and one on-site drinking water well (RW2) were collected to determine local groundwater characteristics.

The drinking water well sampling locations chosen were the nearest available sampling points to the TOP site (see Figure 3-2 for groundwater sampling locations). Sample RW1 was collected off-site from a well in the municipal well house, located approximately 200 feet south-southeast of the TOP site. The well depth was 94 feet (Minnesota Department of Health 1983). Sample RW2 was collected from an on-site well that is used as a source of drinking water at the bead plant. The well depth was 68 feet (Luhman 1989) (see Table 3-1 for addresses of groundwater sampling locations.)

A duplicate sample was collected at well location RW2, and a distilled water field blank was also collected, in accordance with U.S. EPA quality assurance/quality control (QA/QC) requirements. Groundwater samples RW1 and RW2 were collected from outlets that bypassed water treatment systems. For each sample, water was allowed to discharge from the outlet for approximately 10 minutes before samples were collected to insure that the sample source had been purged of standing water (E & E 1987). Both well samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, both well samples were analyzed under the U.S. EPA CLP for TCL compounds by Hazleton Laboratories, Inc., of Madison, Wisconsin, and by the U.S. EPA Central Regional Laboratory (CRL) of Chicago, Illinois; and for TAL analytes by the U.S. EPA CRL of Chicago, Illinois.

Table 3-1

ADDRESSES OF GROUNDWATER SAMPLING LOCATIONS

Sample	Address
RW1	<div data-bbox="855 630 1263 682" style="background-color: black; width: 247px; height: 25px;"></div> <div data-bbox="1272 630 1313 682" style="background-color: black; width: 25px; height: 25px; text-align: center; vertical-align: middle;">NO</div> <div data-bbox="855 682 1148 724" style="background-color: black; width: 177px; height: 20px; color: red;">NON-RESPONSIVE</div> <div data-bbox="855 724 1197 766" style="background-color: black; width: 207px; height: 20px; color: red;">NON-RESPONSIVE</div>
RW2	<div data-bbox="855 819 1082 871" style="background-color: black; width: 137px; height: 25px; text-align: center; vertical-align: middle;">NO</div> <div data-bbox="855 871 1148 966" style="background-color: black; width: 177px; height: 45px; color: red;">NON-RESPONSIVE</div> <div data-bbox="855 966 1197 1008" style="background-color: black; width: 207px; height: 20px;"></div>

## 4. ANALYTICAL RESULTS

### 4.1 INTRODUCTION

This section includes results of chemical analysis of FIT-collected soil samples and groundwater samples for TCL compounds and TAL analytes.

### 4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

Soil Sampling Results. Chemical analysis of FIT-collected soil samples revealed the presence of TAL analytes, including heavy metals, metals, and common soil constituents, and TCL compounds, including common laboratory artifacts, halogenated hydrocarbons, and pesticides (see Table 4-1 for complete soil sample chemical analysis results).

Groundwater Sampling Results. Chemical analysis of FIT-collected groundwater samples revealed the presence of TAL analytes, including heavy metals and TAL analytes commonly found in area substrate, and TCL compounds, including halogenated hydrocarbons and common laboratory artifacts (see Table 4-2 for complete groundwater sample chemical analysis results).

U.S. EPA CLP quantitation/detection limits used in the analysis of FIT-collected soil and groundwater samples are provided in Appendix D.

Table 4-1  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED SOIL SAMPLES

Sample Collection Information and Parameters	Sample Number					
	S1	S2	S3	S4	S5	S6
Date	6/20/89	6/20/89	6/20/89	6/20/89	6/20/89	6/20/89
Time	1215	1230	1240	1310	1315	1330
CLP Organic Traffic Report Number	EFP86	EFP87	EFP88	EFP89	EFP90	EFP91
CLP Inorganic Traffic Report Number	MEFF75	MEFF76	MEFF77	MEFF78	MEFF79	MEFF80
<u>Compound Detected</u> (values in $\mu\text{g/kg}$ )						
<u>Volatile Organics</u>						
methylene chloride	--	--	--	--	--	6J
tetrachloroethene	--	--	--	20	98J	--
toluene	20J	--	--	--	--	--
<u>Pesticides/PCBs</u>						
Aldrin	--	--	--	8.5J	--	--
4,4'-DDT	--	--	--	--	--	31J
<u>Analyte Detected</u> (values in $\mu\text{g/L}$ )						
aluminum	8,470	4,070	6,900	5,880	5,480	6,970
arsenic	1.8B	1.9B	1.8B	1.6B	1.4B	2.1B
barium	112	37.7B	62.7	58.8	48.6	86.2
beryllium	0.65B	--	0.63B	0.56B	0.50B	0.51B
cadmium	1.8	--	--	--	2.8	--
calcium	3,560	5,940	7,700	13,300	9,740	2,340
chromium	17.8	11	10.5	10.3	11.6	8.4
cobalt	6.6B	5.3B	5.2B	4.4B	6.0B	3.4B
copper	30.6	9.3J	5.6J	13.8	12.5	5.6J
iron	12,800	8,170	8,980	11,000	9,480	7,180
lead	33.9	4.3J+	6.5	23.3	46.3	11.8
magnesium	3,020	2,780	3,850	3,910	3,590	1,200

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number					
	S1	S2	S3	S4	S5	S6
manganese	1,340J*	545J*	477J*	377J*	417J*	414J*
nickel	29.3J*	10.7J*	9.8J*	8.7J*B	10.7J*	6.7J*B
potassium	1,370	415B	716B	573B	525B	772B
selenium	--	0.23B	--	0.28B	0.27B	0.23B
sodium	90.5B	140B	180B	221B	66.1B	36.7B
thallium	0.56JB	0.29JB	0.25JB	0.34JB	0.35JB	0.21JB
vanadium	22.9	14.9	19.5	17.6	16.4	14.9
zinc	121	26	25.3	119	406	31.5

-- Not detected.

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semi-quantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Table 4-2  
RESULTS OF CHEMICAL ANALYSIS OF  
FIT-COLLECTED GROUNDWATER SAMPLES

Sample Collection Information and Parameters	<u>Sample Number</u>			
	RW1	RW2	Duplicate	Blank
Date	6/20/89	6/20/89	6/20/89	6/20/89
Time	1100	1355	1355	1110
CRL Log Number	89FS22S11	89FS22S12	89FS22D12	89FS21R17
CLP Organic Traffic Report Number	EFP92	EFP93	EFP94	EFP95
Temperature (°C)	9	15	15	23
Specific Conductivity (µmhos/cm)	248	564	564	0
pH	7.08	7.07	7.07	6.94
<u>Compound Detected</u>				
(values in ug/kg)				
<u>Volatile Organics</u>				
tetrachloroethene	1J	--	--	--
<u>Semivolatile Organics</u>				
di-n-octylphthalate	--	--	--	0.3J
<u>Analyte Detected</u>				
(values in µg/L)				
barium	48	77.8	76.3	--
calcium	87,800	96,00	95,00	--
copper	8.5	19.8	20.7	124
iron	219	--	--	--
lead	3	--	--	--
magnesium	27,200	30,400	30,000	--
manganese	154	85	81.6	--
nickel	52.9	--	--	16
sodium	11,400	19,100	18,700	--

-- Not detected.

Table 4-2 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

- Wastewater is discharged from Plant 105 and collects on the ground surface of an on-site field.
- The geology in the vicinity of the site indicates an area of unconsolidated, glacially derived deposits of sand, clay, and gravel.

According to area well logs (see Appendix E), the glacial drift deposits beneath the site extend to a depth of more than 90 feet. The bedrock underlying the glacial deposits consists of pre-Cambrian igneous and metamorphic rocks. The bedrock is undifferentiated and is not an aquifer, with the exception of areas of local faults and fractures (Kanivetsky 1978). It is believed that all wells in the area of the site draw from the glacial drift, making it the aquifer of concern (AOC) in the vicinity of the TOP site. Regional flow of groundwater in the undifferentiated drift aquifer is toward the east, toward the Mississippi River (Delin and Woodward 1984).

With the exception of the on-site well, the groundwater well nearest to the TOP site is the Clearwater municipal well #2, located approximately 200 feet south-southeast of the site. This well serves the approximately 429 residents of the town of Clearwater.

An additional population of approximately 642 persons, who reside within a 3-mile radius of the site and on the west side of the Mississippi River, is served by private wells drawing from the AOC. This estimate was obtained by counting residences on a United States Geological Survey (USGS) topographic map of the area (USGS 1974), and multiplying this figure by the 1980 Census average for Wright County of 3.15 persons per household (U.S. Bureau of the Census 1982).

These two population groups constitute the total potential target population for groundwater contamination from the TOP site. This target population includes approximately 1,071 persons who are served by municipal and private wells finished in the AOC.

### 5.3 SURFACE WATER

No surface water samples were collected during the SSI of the TOP site. The nearest surface water body is the Mississippi River, which is

1/5 mile east of the site and is used for recreation (Rockford Map Publishers 1984).

No direct overland surface water migration pathways were observed by FIT during the SSI. On-site drainage pathways appear to be toward the low-lying central portion of the site where the discharged wastewater was observed to collect.

#### 5.4 AIR

A release of TCL compounds and/or TAL analytes to the air was not documented during the reconnaissance inspection of the TOP site. During the SSI, the HNu, oxygen meter, and explosimeter used by FIT did not detect concentrations above background levels on-site. In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

However, a potential exists for the release of contaminants to the air in the event of a fire (see Subsection 5.5). Potential air contamination targets include the approximately 1,955 persons residing within a 4-mile radius of the TOP site. This population was calculated in the same manner as described in Subsection 5.2, with the addition of house counts taken from maps of the areas of Sherburne and Stearns counties, which lie within the 4-mile radius. These figures were then multiplied by the 1980 census averages of 3.19 and 3.11 persons per household, respectively, for the two counties (U.S. Bureau of the Census 1982).

#### 5.5 FIRE AND EXPLOSION

During the FIT reconnaissance inspection, no evidence of fire or explosive conditions was observed at the site. FIT instrument readings indicated no apparent potential for explosions at the site.

However, a potential exists for the release of contaminants in the event of a fire on-site. In pellet form, styrene-based plastics have a very low degree of toxicity. Once ignited they tend to burn rapidly and produce a dense, black smoke (Grayson and Eckroth 1978).

Potential targets of fire and explosion include the approximately 669 persons residing within a 2-mile radius of the TOP site. This population was calculated in the same manner described in Subsection 5.2, with additional house counts taken from maps of Sherburne and

Stearns counties, multiplied by the 1980 census averages of 3.19 and 3.11 persons per household, respectively, for those counties (U.S. Bureau of the Census 1982).

#### 5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, and interviews with T. O. Plastics representatives, no documentation exists of an incident of direct contact with TCL compounds or TAL analytes at this site.

There is a potential for the public and for T. O. Plastics employees to come into direct contact with TAL analytes and TCL compounds detected at the site. The potential for direct contact is based on the following information.

- TAL analytes and TCL compounds were detected in surface soil samples.
- The site is not fenced.
- Land use surrounding the site is primarily commercial and residential.

The population within a 1-mile radius of the site is approximately 427 persons. This estimate was obtained using the same procedure described in Subsection 5.2.

## 6. REFERENCES

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- E & E, 1987, Quality Assurance Project Plan Region V FIT Conducted Site Inspections, Chicago, Illinois.
- Engler, Ken, Leonard Helget, and Violet Luhmen, June 20, 1989, bead plant Manager, Plant 105 Manager, and Operations Manager, T. O. Plastics, interview, conducted by Daniel Sullivan of E & E.
- Grayson, Martin, and David Eckroth, eds., 1978, Kirk-Othmer Encyclopedia of Chemical Technology, 3rd Edition, Volume 21, John Wiley and Sons, Inc.
- Helget, Leonard, October 27, 1989, Plant 105 Manager, T. O. Plastics, telephone conversation, contacted by Daniel Sullivan of E & E.
- Kanivetsky, Roman, 1978, Minnesota Geological Survey, Hydrogeologic Map of Minnesota.
- Luhman, Violet, June 28, 1989, Operations Manager, T. O. Plastics, letter, to Dan Sullivan of E & E.

Minnesota Department of Health, April 26, 1983, water well record for village of Clearwater, well number 190794.

MPCA, January 23, 1986, Potential Hazardous Waste Site Preliminary Assessment and Executive Summary for T. O. Plastics, Clearwater, Minnesota, U.S. EPA ID: MND006171847, prepared by Michael Connally.

Rockford Map Publishers, 1984, Minnesota Travel and Recreation Guide.

U.S. EPA, February 12, 1988, Office of Solid Waste and Emergency Response, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

USGS, 1974, Clearwater, Minnesota Quadrangle, 7.5 Minute Series: 1:24,000.

4104:3



**APPENDIX A**

**SITE 4-MILE RADIUS MAP**

# SDMS US EPA Region V

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APPENDIX B

U.S. EPA FORM 2070-13



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

L IDENTIFICATION  
01 STATE 02 SITE NUMBER  
MN D006171847

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) T.O. PLASTICS	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 830 COUNTY ROAD 75				
03 CITY CLEARWATER	04 STATE MN	05 ZIP CODE 55320	06 COUNTY WRIGHT	07 COUNTY CODE 171	08 CONG DIST 06
09 COORDINATES 45° 24' 51.0" LATITUDE 094° 02' 44.2" LONGITUDE		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN			

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 6, 20, 89 MONTH DAY YEAR	02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1958 - BEGINNING YEAR ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <u>ECOLOGY AND ENVIRONMENT</u> <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER			

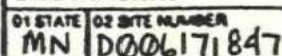
05 CHIEF INSPECTOR DANIEL SULLIVAN	06 TITLE CHEMICAL ENGINEER	07 ORGANIZATION E + E	08 TELEPHONE NO (312) 663-9415
09 OTHER INSPECTORS DEBORAH BARRETT	10 TITLE GEOLOGIST	11 ORGANIZATION E + E	12 TELEPHONE NO (312) 663-9415
RONNIE GALMORE	TECHNICIAN	E + E	(312) 663-9415
MIKE PHILLIPS	GEOLOGIST	E + E	(312) 663-9415
KURT SIMS	EARTH SCIENTIST	E + E	(312) 663-9415
			( )

13 SITE REPRESENTATIVES INTERVIEWED VIOLET LUHMAN	14 TITLE OPERATIONS MGR	15 ADDRESS 2901 EAST 78TH STREET MINNEAPOLIS, MN 55425	16 TELEPHONE NO (612) 854-2131
LEONARD HELGET	PLANT 105 MGR	830 COUNTY ROAD 75 CLEARWATER, MN 55320	(612) 558-2407
KEN ENGLER	BEAD PLANT MGR	830 COUNTY ROAD 75 CLEARWATER, MN 55320	(612) 558-6110
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION 0823	19 WEATHER CONDITIONS AM PARTLY SUNNY, ~80°F, SOUTH WIND ~15-20 MPH PM SUNNY, ~90°F, SOUTH WIND ~20-25 MPH
--	-------------------------------	--

IV. INFORMATION AVAILABLE FROM

01 CONTACT RON SWENSON	02 OF (Agency/Organization) MINNESOTA POLLUTION CONTROL AGENCY		03 TELEPHONE NO (612) 297-1793
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM DANIEL SULLIVAN	05 AGENCY U.S. EPA	06 ORGANIZATION ECOLOGY + ENVIRONMENT	07 TELEPHONE NO (312) 663-9415
			08 DATE 10, 13, 89 MONTH DAY YEAR





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~1,071 04 NARRATIVE DESCRIPTION

SEE SECTION 5.2

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: N/A 04 NARRATIVE DESCRIPTION

SEE SECTION 5.3

01 ☒ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~1,955 04 NARRATIVE DESCRIPTION

SEE SECTION 5.4

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~669 04 NARRATIVE DESCRIPTION

SEE SECTION 5.5

01 ☒ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~427 04 NARRATIVE DESCRIPTION

SEE SECTION 5.6

01 ☒ F. CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE: 6-20-89) ☐ POTENTIAL ☐ ALLEGED  
03 AREA POTENTIALLY AFFECTED: ~12 04 NARRATIVE DESCRIPTION  
(Acres)

SEE SECTION 4

01 ☒ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~1,071 04 NARRATIVE DESCRIPTION

SEE SECTION 5.2

01 ☒ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 WORKERS POTENTIALLY AFFECTED: ~50 04 NARRATIVE DESCRIPTION

SEE SECTION 5.6

01 ☒ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
03 POPULATION POTENTIALLY AFFECTED: ~1,955 04 NARRATIVE DESCRIPTION

SEE A, C, D ABOVE



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☒ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL

☐ ALLEGED

POTENTIAL EXISTS FOR TCL COMPOUNDS AND TAL ANALYTES TO AFFECT FLORA.

01 ☒ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include names of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL

☐ ALLEGED

POTENTIAL EXISTS FOR TCL COMPOUNDS AND TAL ANALYTES TO AFFECT FAUNA.

01 ☒ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☒ POTENTIAL

☐ ALLEGED

POTENTIAL EXISTS IF CONTAMINATED FAUNA ARE CONSUMED.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES  
(Leaking Tanks, Leaking Drums, etc.)

02 ☒ OBSERVED (DATE: 6-20-89)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

VACUUM PUMP COOLING WATER DISCHARGED TO THE GROUND OUTSIDE OF BUILDING.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

NONE WAS NOTED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

NONE WAS NOTED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

NONE WAS NOTED.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

NONE WAS NOTED

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~1,955

IV. COMMENTS

SITE IS A PLASTICS FACILITY WHICH DOES VACUUM FORMING AND EXPANDABLE POLYSTYRENE MOLDING

CLEARWATER MUNICIPAL WELL LOCATED ~200 FEET SSE OF SITE.

V. SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

STATE (MPCA) FILES

ECOLOGY AND ENVIRONMENT FILES, REGION V.

SSI CONDUCTED 6-20-89.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input checked="" type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/ DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input checked="" type="checkbox"/> A. SURFACE IMPOUNDMENT	~ 270 000	GALLONS	<input type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES	(NON-CONTACT)	COOLING WATER	<input type="checkbox"/> B. UNDERGROUND INJECTION	7
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	06 AREA OF SITE
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	~ 12 (Acres)
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER N/A (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

SITE IS UNFENCED WITH THE EXCEPTION OF A PROPANE TANK AND THE CONCRETE POND.  
LAND USE SURROUNDING THE SITE IS PRIMARILY COMMERCIAL AND RESIDENTIAL.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE    ☐ B. MODERATE    ☒ C. INADEQUATE, POOR    ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DRUMS, LINERS, BARRIERS, ETC.

POND IS PERIODICALLY SPRAYED WITH A SEALANT  
VACUUM PUMP WATER DISCHARGED TO GROUND OUTSIDE THE BUILDING  
COOLING

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

SITE IS UNFENCED WITH RESIDENTIAL / COMMERCIAL AREAS NEARBY.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. State files, sample analysis, reports)

STATE (MPCA) FILES

ECOLOGY AND ENVIRONMENT FILES, REGION V.

SSI CONDUCTED 6-20-89.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)			02 STATUS			03 DISTANCE TO SITE	
	SURFACE	WELL	ENDANGERED	AFFECTED	MONITORED		
COMMUNITY	A. <input type="checkbox"/>	B. <input checked="" type="checkbox"/>	A. <input type="checkbox"/>	B. <input type="checkbox"/>	C. <input checked="" type="checkbox"/>	A. ~ 200 FEET	
NON-COMMUNITY	C. <input type="checkbox"/>	D. <input type="checkbox"/>	D. <input type="checkbox"/>	E. <input type="checkbox"/>	F. <input type="checkbox"/>	B. ~ 3/4 (mi)	

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A ONLY SOURCE FOR DRINKING    ☒ B DRINKING  
(Other sources available)  
COMMERCIAL, INDUSTRIAL, IRRIGATION  
(No other water sources available)

☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION  
(Limited other sources available)    ☐ D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ~ 1,071		03 DISTANCE TO NEAREST DRINKING WATER WELL ON-SITE (mi)	
04 DEPTH TO GROUNDWATER ~ 50 (ft)	05 DIRECTION OF GROUNDWATER FLOW EAST	06 DEPTH TO AQUIFER OF CONCERN ~ 50 (ft)	07 POTENTIAL YIELD OF AQUIFER UNKNOWN (gpd)
		08 SOLE SOURCE AQUIFER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

CLEARWATER MUNICIPAL WELL DRAWS FROM GLACIAL DRIFT AND IS LOCATED ~ 200 FEET SSE OF SITE.  
PRIVATE WELLS WITHIN THREE MILES OF THE SITE ALSO DRAW FROM GLACIAL DRIFT.

10 RECHARGE AREA <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO COMMENTS PRECIPITATION		11 DISCHARGE AREA <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO COMMENTS DISCHARGE TO MISSISSIPPI RIVER	
---	--	---	--

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A RESERVOIR, RECREATION, DRINKING WATER SOURCE    ☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES    ☐ C COMMERCIAL, INDUSTRIAL    ☐ D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
MISSISSIPPI RIVER	<input type="checkbox"/>	~ 1300 FEET
	<input type="checkbox"/>	
	<input type="checkbox"/>	

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN			02 DISTANCE TO NEAREST POPULATION
ONE (1) MILE OF SITE A. ~ 427 NO. OF PERSONS	TWO (2) MILES OF SITE B. ~ 669 NO. OF PERSONS	THREE (3) MILES OF SITE C. ~ 1195 NO. OF PERSONS	ON-SITE (mi)
03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ~ 212			04 DISTANCE TO NEAREST OFF-SITE BUILDING ~ 150 FEET (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

T.O. PLASTICS IS LOCATED IN THE VILLAGE OF CLEARWATER.  
LAND USE SURROUNDING THE SITE IS PRIMARILY COMMERCIAL AND RESIDENTIAL.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A.  $10^{-6} - 10^{-8}$  cm/sec ☐ B.  $10^{-4} - 10^{-6}$  cm/sec ☐ C.  $10^{-4} - 10^{-3}$  cm/sec ☐ D. GREATER THAN  $10^{-3}$  cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE  
(Less than  $10^{-8}$  cm/sec)  
☐ B. RELATIVELY IMPERMEABLE  
( $10^{-8} - 10^{-6}$  cm/sec)  
☐ C. RELATIVELY PERMEABLE  
( $10^{-6} - 10^{-4}$  cm/sec)  
☐ D. VERY PERMEABLE  
(Greater than  $10^{-2}$  cm/sec)

03 DEPTH TO BEDROCK

> 90 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

UNKNOWN (ft)

05 SOIL pH

UNKNOWN

06 NET PRECIPITATION

- 3.23 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.25 (in)

08 SLOPE

SITE SLOPE  
4.3 %

DIRECTION OF SITE SLOPE

EAST

TERRAIN AVERAGE SLOPE

4.3 %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY  
N/A

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

A. N/A (mi)

OTHER

B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A (mi)

ENDANGERED SPECIES: \_\_\_\_\_

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. ~ 400 FEET

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

B. ~ 150 FEET

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

C. N/A (mi) D. N/A (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

SEE APPENDIX A.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

ECOLOGY AND ENVIRONMENT FILES, REGION V.  
USGS TOPOGRAPHIC MAP, CLEARWATER, MN QUAD.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - SAMPLE AND FIELD INFORMATION

I IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	2	TCL - HAZLETON LABS MADISON, WI - U.S. EPA CENTRAL REGIONAL LAB CHICAGO, IL	IN
SURFACE WATER		TAL - U.S. EPA CENTRAL REGIONAL LAB CHICAGO, IL	IN
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	6	TCL - AMERICAN ANALYTICAL + TECH. SVS. DRIVEN ARROW, OK TAL - COLUMBIA ANALYTICAL SERVICES LONGVIEW, WA	IN
VEGETATION		1	
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNU	NO READINGS ABOVE BACKGROUND
O <sub>2</sub> / EXPLOSIMETER	
RAD - MINI	
DRAEGER PUMP	

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF <u>ECOLOGY AND ENVIRONMENT, CHICAGO</u> <small>(Name of organization or individual)</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS <u>ECOLOGY AND ENVIRONMENT, CHICAGO</u>

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

N/A

VI. SOURCES OF INFORMATION (Cite specific references, e.g., data files, sample analysis, reports)

ECOLOGY AND ENVIRONMENT FILES, REGION II.  
SSI CONDUCTED 6-20-89



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

II. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. CURRENT OWNER(S)				PARENT COMPANY (if applicable)			
01 NAME T.O. PLASTICS		02 D+B NUMBER		08 NAME N/A		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 2901 EAST 78TH STREET		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY MINNEAPOLIS		06 STATE MN	07 ZIP CODE 55425	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
III. PREVIOUS OWNER(S) (List most recent first)				IV. REALTY OWNER(S) (if applicable, list most recent first)			
01 NAME N/A		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)							
ECOLOGY AND ENVIRONMENT FILES, REGION V. SSI CONDUCTED 6-20-89.							



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

L IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN 0006171847

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (if applicable)			
01 NAME SAME AS OWNER		02 D+B NUMBER		10 NAME N/A		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first, provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)			
01 NAME N/A		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)							
ECOLOGY AND ENVIRONMENT FILES, REGION V. SSI CONDUCTED 6-20-89.							



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN 0006171847

II. ON-SITE GENERATOR

01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME N/A	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME N/A	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (List specific references, e.g., state files, sample analysis, reports)

ECOLOGY AND ENVIRONMENT FILES, REGION V.  
SSI CONDUCTED 6-20-89.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DRAIN/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

L IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II PAST RESPONSE ACTIVITIES *(continue)*

01 <input type="checkbox"/> R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> S. CAPPING/COVERING 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> T. BULK TANKAGE REPAIRED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> V. BOTTOM SEALED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> W. GAS CONTROL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> X. FIRE CONTROL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Y. LEACHATE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Z. AREA EVACUATED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 2. POPULATION RELOCATED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____

III. SOURCES OF INFORMATION *(cite specific references, e.g., state files, sample analysis, reports)*

ECOLOGY AND ENVIRONMENT FILES, REGION V.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

L IDENTIFICATION

01 STATE 02 SITE NUMBER  
MN D006171847

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Can specific references, e.g., state files, sample analysis, reports)

ECOLOGY AND ENVIRONMENT FILES, REGION V.

C

**APPENDIX C**

**FIT SITE PHOTOGRAPHS**

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 1 OF 16

U.S. EPA ID: MND006171847

TDD: F05-8811-003

PAN: FMN01885A



DATE: 6-20-89 TIME: 1450 DIRECTION OF PHOTOGRAPH: EAST PHOTOGRAPHED BY: D. SULLIVAN

WEATHER CONDITIONS: SUNNY, WINDY, 80's SAMPLE ID (if applicable): N/A

DESCRIPTION: PERSPECTIVE OF THE PLANT 105 BUILDING. NOTE THE PROPANE TANK TO THE LEFT.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 2 OF 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN01885A

DATE: 6-20-89

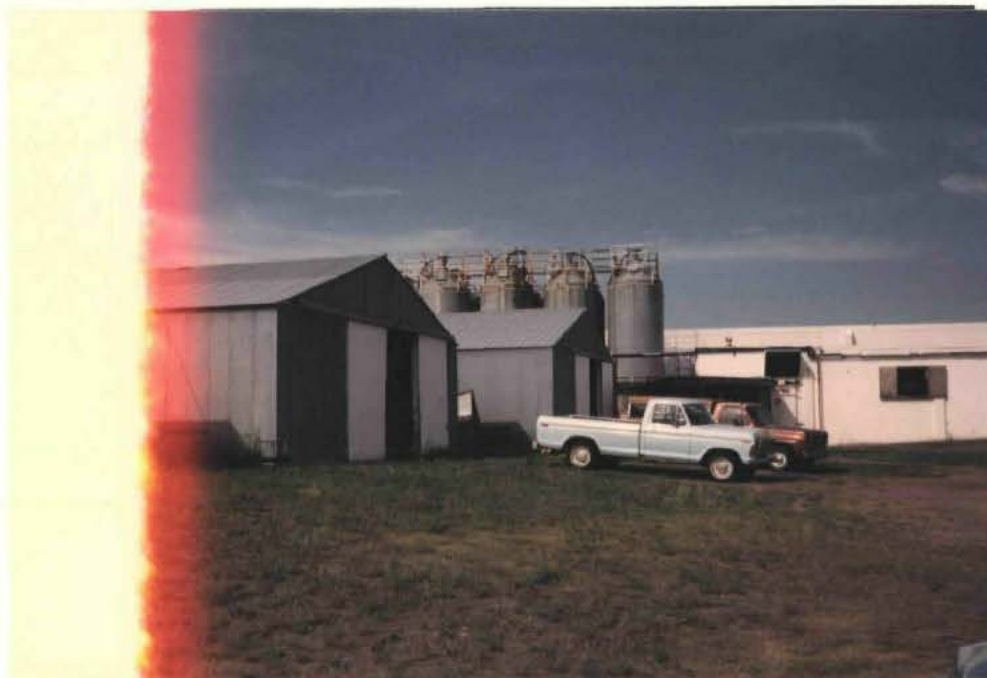
TIME: 1045

DIRECTION OF  
PHOTOGRAPH:  
SW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
N/A



DESCRIPTION: WAREHOUSES AND SILOS OF PLANT 105

DATE: 6-20-89

TIME: 1045

DIRECTION OF  
PHOTOGRAPH:  
SW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
N/A



DESCRIPTION: WAREHOUSES AND SILOS OF PLANT 105.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 3 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN0188SADATE: 6-20-89TIME: 1245DIRECTION OF  
PHOTOGRAPH:NWWEATHER  
CONDITIONS:SUNNY, WINDY80's

PHOTOGRAPHED BY:

D. SULLIVANSAMPLE ID  
(if applicable):N/A

DESCRIPTION: VACUUM PUMP DISCHARGE WATER AS IT FLOWS FROM  
A PIPE OUTSIDE THE PLANT 105 BUILDING. NOTE DITCH FORMED  
BY THE DISCHARGE WATER.

DATE: 6-20-89TIME: 1230DIRECTION OF  
PHOTOGRAPH:NWWEATHER  
CONDITIONS:SUNNY, WINDY80's

PHOTOGRAPHED BY:

D. SULLIVANSAMPLE ID  
(if applicable):N/A

DESCRIPTION: PERSPECTIVE SHOWING PONDED WATER, WAREHOUSES,  
PUMP HOUSE, AND COOLING POND.

SITE NAME: T.O. PLASTICSPAGE 4 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN0188SADATE: 6-20-89TIME: 1435DIRECTION OF  
PHOTOGRAPH:  
SOUTHWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF BEAD PLANT. BUILDING LEFT OF THE  
BEAD PLANT IS A COMMUNITY CENTER. CLEARWATER WATER TOWER  
LOCATED IN BACKGROUND.DATE: 6-20-89TIME: 1440DIRECTION OF  
PHOTOGRAPH:  
NORTHWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF BEAD PLANT.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 5 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN01885ADATE: 6-20-89TIME: 1440DIRECTION OF  
PHOTOGRAPH:  
NWWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF COOLING POND. PLANT 105 FACILITY  
IN THE BACKGROUND.DATE: 6-20-89TIME: 1445DIRECTION OF  
PHOTOGRAPH:  
NEWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF COOLING POND AND PLANT 105  
WAREHOUSES.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 6 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN01885ADATE: 6-20-89TIME: 1250DIRECTION OF  
PHOTOGRAPH:  
WESTWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF THE GRINDING AREA WITHIN THE  
PLANT 105 BUILDING.DATE: 6-20-89TIME: 1455DIRECTION OF  
PHOTOGRAPH:  
WSWWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/ADESCRIPTION: PERSPECTIVE OF LOADING PLATFORM OF THE PLANT 105  
BUILDING. EXTRUSION AREA LOCATED IN THE PORTION OF THE  
BUILDING LEFT OF THE PLATFORM.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 7 OF 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN01885A

DATE: 6-20-89

TIME: 1435

DIRECTION OF  
PHOTOGRAPH:  
NNW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
N/A



DESCRIPTION: PERSPECTIVE SHOWING WAREHOUSE #4.

DATE: 6-20-89

TIME: 1430

DIRECTION OF  
PHOTOGRAPH:  
WEST

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
N/A



DESCRIPTION: PERSPECTIVE OF WAREHOUSE SHOWING BARRELS  
WHICH ALLEGEDLY CONTAIN "CUT-BACK" ASPHALT.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 8 OF 16

U.S. EPA ID: MND006171847 TDD: FOS-8811-003

PAN: FMN0188SA

DATE: 6-20-89

TIME: 1430

DIRECTION OF  
PHOTOGRAPH:  
ESEWEATHER  
CONDITIONS:  
SUNNY, WINDY

80°s

PHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
N/A

DESCRIPTION: PERSPECTIVE OF T.O. PLASTICS PROPERTY EAST OF SITE  
BUILDINGS. NOTE HOMES IN BACKGROUND AND PROPANE TANK TO THE  
RIGHT.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 9 of 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN0 085ADATE: 6-20-89TIME: 1215DIRECTION OF  
PHOTOGRAPH:  
NWWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
SIDESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE SI.DATE: 6-20-89TIME: 1215DIRECTION OF  
PHOTOGRAPH:  
NORTHWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
SIDESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE SI, COLLECTED  
NEAR A LOADING PLATFORM OUTSIDE THE GRINDING AREA OF PLANT 105.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 10 OF 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN0188SA

DATE: 6-20-89

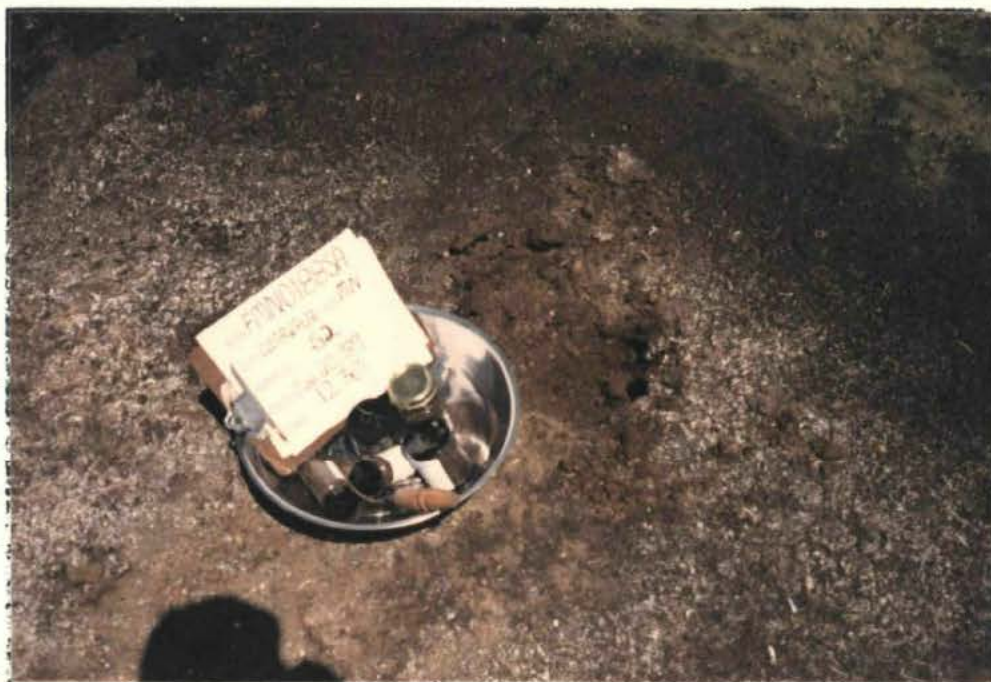
TIME: 1230

DIRECTION OF  
PHOTOGRAPH:  
NNE

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S2



DESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE S2.

DATE: 6-20-89

TIME: 1230

DIRECTION OF  
PHOTOGRAPH:  
NW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S2



DESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE S2, COLLECTED  
FROM A LOW LYING AREA OF PONDED WATER.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 11 OF 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN0188SA

DATE: 6-20-89

TIME: 1240

DIRECTION OF  
PHOTOGRAPH:  
NORTH

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S3



DESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE S3.

DATE: 6-20-89

TIME: 1240

DIRECTION OF  
PHOTOGRAPH:  
NORTH

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

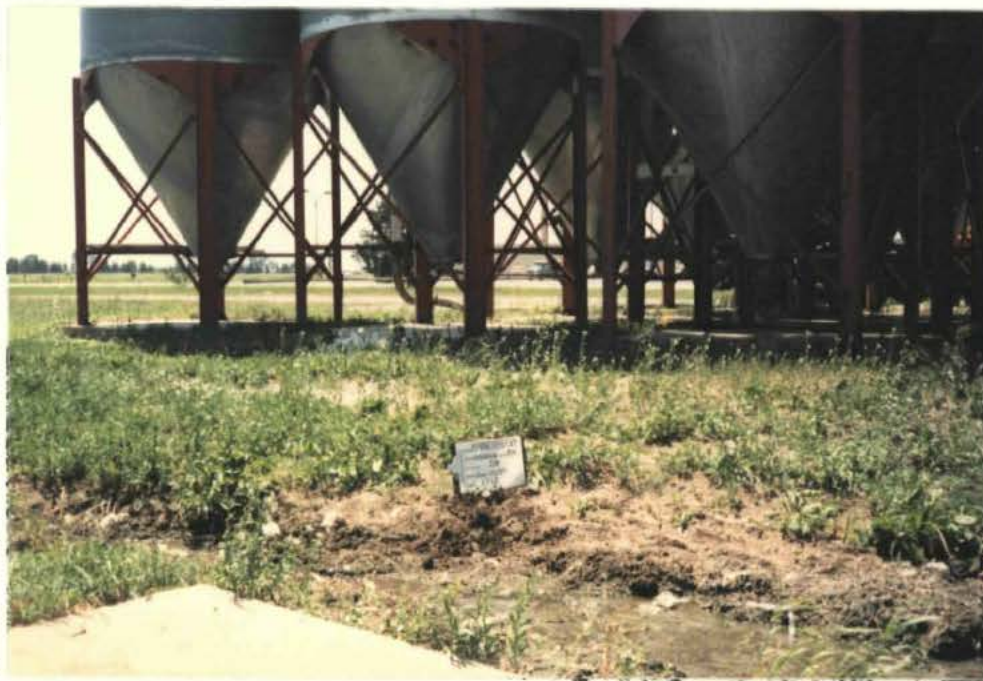
PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S3



DESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE S3, COLLECTED  
OUTSIDE OF THE BEAD PLANT.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 12 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN01885ADATE: 6-20-89TIME: 1310DIRECTION OF  
PHOTOGRAPH:  
SOUTHWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
S4DESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE S4.DATE: 6-20-89TIME: 1310DIRECTION OF  
PHOTOGRAPH:  
SOUTHWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
S4DESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE S4, COLLECTED  
NEAR THE WATER DISCHARGE POINT FROM THE PLANT 105 BUILDING.  
NOTE SILOS IN BACKGROUND.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 13 of 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN01885A

DATE: 6-20-89

TIME: 1315

DIRECTION OF  
PHOTOGRAPH:  
SW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S5



DESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE S5.

DATE: 6-20-89

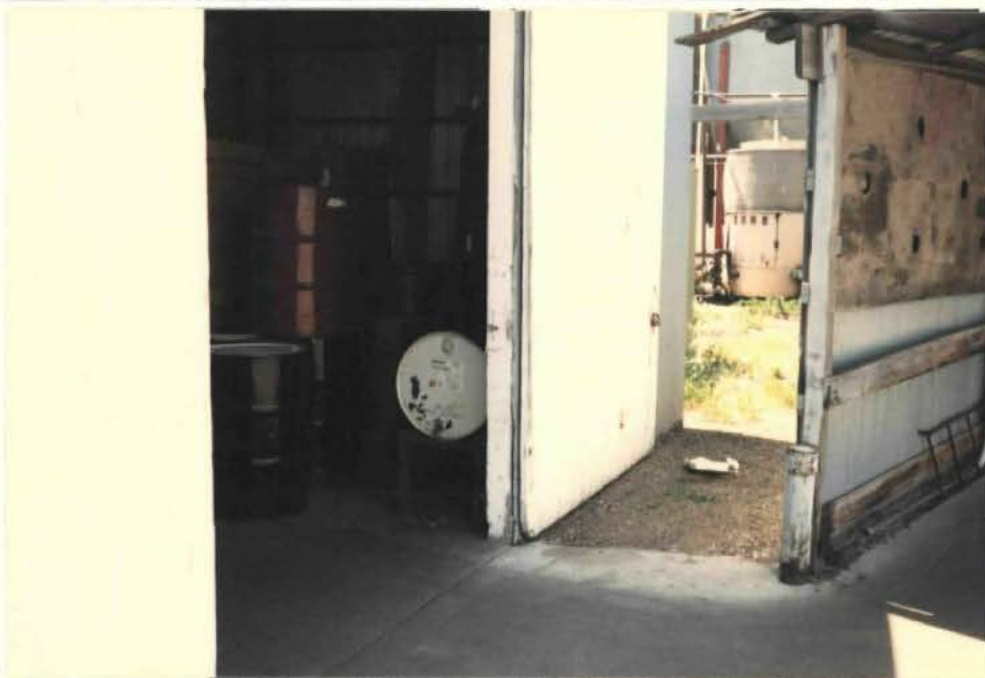
TIME: 1315

DIRECTION OF  
PHOTOGRAPH:  
SW

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S5



DESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE S5, COLLECTED NEAR  
THE FIRST WAREHOUSE EAST OF THE SILOS. AMONG THE BARRELS INSIDE  
THE WAREHOUSE ARE THOSE LABELLED PERCHLOROETHYLENE AND ETHYLENE GLYCOL.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICS

PAGE 14 OF 16

U.S. EPA ID: MND006171847 TDD: F05-8811-003

PAN: FMN0188SA

DATE: 6-20-89

TIME: 1335

DIRECTION OF  
PHOTOGRAPH:  
SOUTH

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S6



DESCRIPTION: CLOSE-UP OF SURFACE SOIL SAMPLE S6, COLLECTED AS  
A POTENTIAL BACKGROUND SOIL SAMPLE.

DATE: 6-20-89

TIME: 1335

DIRECTION OF  
PHOTOGRAPH:  
WEST

WEATHER  
CONDITIONS:  
SUNNY, WINDY  
80's

PHOTOGRAPHED BY:  
D. SULLIVAN

SAMPLE ID  
(if applicable):  
S6



DESCRIPTION: PERSPECTIVE OF SURFACE SOIL SAMPLE S6, COLLECTED  
FROM TREES EAST OF THE T.O. PLASTICS FACILITY.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 15 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN0188SADATE: 6-20-89TIME: 1355DIRECTION OF  
PHOTOGRAPH:  
NNWWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
RW2DESCRIPTION: CLOSE-UP OF SAMPLE RW2, COLLECTED FROM THE  
WELL AT THE T.O. PLASTICS BEAD PLANT ON-SITE.DATE: 6-20-89TIME: 1355DIRECTION OF  
PHOTOGRAPH:  
NNWWEATHER  
CONDITIONS:  
SUNNY, WINDY  
80'sPHOTOGRAPHED BY:  
D. SULLIVANSAMPLE ID  
(if applicable):  
RW2DESCRIPTION: PERSPECTIVE OF DRINKING WATER SAMPLE RW2.

## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: T.O. PLASTICSPAGE 16 OF 16U.S. EPA ID: MND006171847 TDD: F05-8811-003PAN: FMN0188SADATE: 6-20-89

NON-RESPONSIVE

TIME: 1100DIRECTION OF  
PHOTOGRAPH:SSEWEATHER  
CONDITIONS:SUNNY, WINDY80's

PHOTOGRAPHED BY:

D. SULLIVANSAMPLE ID  
(if applicable):  
RW1DESCRIPTION: CLOSE-UP OF SAMPLE RW1, COLLECTED FROM  
THE CLEARWATER, MN MUNICIPAL WELL.DATE: 6-20-89

NON-RESPONSIVE

TIME: 1100DIRECTION OF  
PHOTOGRAPH:WESTWEATHER  
CONDITIONS:SUNNY, WINDY80's

PHOTOGRAPHED BY:

D. SULLIVANSAMPLE ID  
(if applicable):  
RW1DESCRIPTION: PERSPECTIVE OF MUNICIPAL WELL SAMPLE RW1.

APPENDIX D

U.S. EPA TARGET COMPOUND LIST AND  
TARGET ANALYTE LIST  
QUANTITATION/DETECTION LIMITS

ADDENDUM A

ROUTINE ANALYTICAL SERVICES  
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS

Contract Laboratory Program  
Target Compound List  
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Toluene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Table A  
Contract Laboratory Program  
Target Compound List  
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Table A  
Contract Laboratory Program  
Target Compound List  
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL
			SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Table A (Cont.)

CONTRACT LABORATORY PROGRAM  
 TARGET ANALYTE LIST (TAL)  
 INORGANIC DETECTION LIMITS

Compound	Procedure	Detection Limits	
		Water (µg/L)	Soil Sediment Sludge (mg/kg)
aluminum	ICP	200	40
antimony	furnace	60	2.4
arsenic	furnace	10	2
barium	ICP	200	40
beryllium	ICP	5	1
cadmium	ICP	5	1
calcium	ICP	5,000	1,000
chromium	ICP	10	2
cobalt	ICP	50	10
copper	ICP	25	5
iron	ICP	100	20
lead	furnace	5	1
magnesium	ICP	5,000	1,000
manganese	ICP	15	3
mercury	cold vapor	0.2	0.008
nickel	ICP	40	8
potassium	ICP	5,000	1,000
selenium	furnace	5	1
silver	ICP	10	2
sodium	ICP	5,000	1,000
thallium	furnace	10	2
tin	ICP	40	8
vanadium	ICP	50	10
zinc	ICP	20	4
cyanide	color	10	2

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ADDENDUM B

CENTRAL REGIONAL LABORATORY  
DETECTION LIMITS

TABLE B  
CENTRAL REGIONAL LABORATORY  
VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-dichloroethane	75-34-3	1.5
1,2-dichloroethane	107-06-2	1.5
1,1-dichloroethene	75-35-4	1.5
Total-1,2-dichloroethene	540-59-0	1.5
1,2-dichloropropane	78-87-5	1.5
cis-1,3-dichloropropene	10061-01-5	2
trans-1,3-dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride*	75-09-2	1
1,1,2,2-tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene*	108-88-3	1.5
1,1,1-trichloroethane	71-55-6	1.5
1,1,2-trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone*	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-Pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-xylene	108-38-3	2
o-xylene**	95-47-6	
p-xylene**	106-42-3	2.5**
Total Xylene	1330-02-7	

\* Common Laboratory Solvents.

Blank Limit is 5X Method Detection Limit.

( ) Values in parentheses are estimates.

Actual values are being determined at this time.

\*\* The o-xylene and p-xylene are reported as a total of the two.

TABLE B (cont.)  
CRL  
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
Aniline	62-53-3	1.5 ug/L	3 ug/L
Bis(2-chloroethyl)ether	111-44-4	1.5	3
Phenol	108-95-2	2	4
2-Chlorophenol	95-57-8	2	4
1,3-Dichlorobenzene	541-73-1	2	4
1,4-Dichlorobenzene	106-46-7	2	4
1,2-Dichlorobenzene	95-50-1	2.5	5
Benzyl alcohol	100-51-6	2	4
Bis(2-chloroisopropyl) ether	39638-32-9	2.5	5
2-Methylphenol	95-48-7	1	2
Hexachloroethane	67-72-1	2	4
N-nitrosodipropylamine	621-64-7	1.5	3
Nitrobenzene	98-95-3	2.5	5
4-Methylphenol	106-44-5	1	2
Isophorone	78-59-1	2.5	5
2-Nitrophenol	88-75-5	2	4
2,4-Dimethylphenol	105-67-9	2	4
Bis(2-chloroethoxy)methane	111-91-1	2.5	5
2,4-Dichlorophenol	120-83-2	2	4
1,2,4-Trichlorobenzene	120-82-1	2	4
Naphthalene	91-20-3	2	4
4-Chloroaniline	106-47-8	2	4
Hexachlorobutadiene	87-68-3	2.5	5
Benzoic acid	65-85-0	(30)	(60)
2-Methylnapthalene	91-57-6	2	4
4-Chloro-3-methylphenol	59-50-7	1.5	3
Hexachlorocyclopentadiene	77-47-4	2	4
2,4,6-Trichlorophenol	88-06-2	1.5	3
2,4,5-Trichlorophenol	95-95-4	1.5	3
2-Chloronapthalene	91-58-7	1.5	3
Acenaphthylene	208-96-8	1.5	3
Dimethyl phthalate	131-11-3	1.5	3
2,6-Dinitrotoluene	606-20-2	1	2
Acenaphthene	83-32-9	1.5	3
3-Nitroaniline	99-09-2	2.5	5
Dibenzofuran	132-64-9	1	2
2,4-Dinitrophenol	51-28-5	(15)	(30)
2,4-Dinitrotoluene	121-14-2	1	2
cont.			

TABLE B (Cont.)  
CRL  
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK (a) LIMIT
Fluorene	86-73-7	1 ug/L	2 ug/L
4-Nitrophenol	100-02-7	1.5	3
4-Chlorophenyl phenyl ether	7005-72-3	1	2
Diethylphthalate	84-66-2	1	2
4,6-dinitro-2-methylphenol	534-52-1	(15)	(30)
1,2-Diphenylhydrazine	122-66-7	1	2
n-Nitrosodiphenylamine *	86-30-6		
Diphenylamine *	122-39-4	1.5	3
4-Nitroaniline	100-01-6	3	6
4-Bromophenyl-phenylether	101-55-3	1.5	3
Hexachlorobenzene	118-74-1	1.5	3
Pentachlorophenol	87-86-5	2	4
Phenanthrene	85-01-8	1	2
Anthracene	120-12-7	2.5	5
Di-n-butylphthalate	84-74-2	2	4
Fluoranthene	206-44-0	1.5	3
Pyrene	129-00-0	1.5	3
Butylbenzylphthalate	85-68-7	3.5	7
Chrysene **	218-01-9		
Benzo(a)anthracene **	56-55-3	1.5	3
bis(2-Ethylhexyl)phthalate	117-81-7	1	2
Di-n-octyl phthalate	117-84-0	1.5	3
Benzo(b)fluoranthene ***	205-99-2		
Benzo(k)fluoranthene ***	207-08-9	1.5	3
Benzo(a)pyrene	50-32-8	2	4
Indeno(1,2,3-cd)pyrene	193-39-5	3.5	7
Dibenzo(a,h)anthracene	53-70-3	2.5	5
Benzo(g,h,i)perylene	191-24-2	4	8
2-Nitroaniline	88-74-4	1	2

\* These two parameters are reported as a total.

\*\* These two parameters are reported as a total.

\*\*\* These two parameters are reported as a total.

(a) If the blank limit is exceeded, the sample is reextracted and rerun.

( ) Values in parentheses are estimates.

The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)  
CRL  
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gama BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-8	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin aldehyde	7421-93-4	(0.030)
Endrin ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.  
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE B (Cont.)  
CRL  
INORGANIC DETECTION LIMITS

COMPOUND	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
Aluminum	ICP	100	80 to 1,000,000	ug/L
Antimony	Furnace	2	2 to 30	ug/L
Arsenic	Furnace	2	2 to 30	ug/L
Barium	ICP	50	6 to 20,000	ug/L
Beryllium	ICP	5	1 to 20,000	ug/L
Boron	ICP	80	80 to 20,000	ug/L
Cadmium	ICP	10	10 to 20,000	ug/L
Cadmium	Furnace	0.2	0.2 to 2	ug/L
calcium	ICP	1000	0.5 to 1,000	mg/L
Chromium	ICP	10	8 to 20,000	ug/L
Cobalt	ICP	10	6 to 20,000	ug/L
Copper	ICP	10	6 to 20,000	ug/L
iron	ICP	100	80 to 1,000,000	ug/L
Lead	Furnace	2	2 to 30	ug/L
Lead	ICP	70	70 to 20,000	ug/L
Lithium	ICP	10	10 to 20,000	ug/L
Magnesium	ICP	1000	0.1 to 200	mg/L
Maganese	ICP	10	5 to 20,000	ug/L
Mercury	Cold vapor	0.2	0.1 to 2	ug/L
Molybdenum	ICP	15	15 to 20,000	ug/L
Nickel	ICP	20	15 to 20,000	ug/L
Potassium	ICP	2000	5 to 1,000	mg/L
Selenium	Furnace	2	2 to 30	ug/L
Silver	ICP	5	6 to 10,000	ug/L
Sodium	ICP	1000	1 to 1,000	mg/L
Strontium	ICP	10	10 to 20,000	ug/L
Sulfide	Titration	1	< 1	mg/L
Sulfide	Color	0.05	< 1	mg/L
Thallium	Furnace	2	2 to 30	ug/L
Titanium	ICP	25	25 TO 20,000	UG/L
Tin	ICP	40	40 to 20,000	ug/L
Vanadium	ICP	10	5 to 20,000	ug/L
Yttrium	ICP	5	5 to 20,000	ug/L
Zinc	ICP	20	40 to 1,000,000	ug/L
Cyanide	AA	5.0	8 to 200	ug/L

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services for related CAS #.

ADDENDUM C

SPECIAL ANALYTICAL SERVICES  
DETECTION LIMITS

Drinking Water Samples

TABLE C  
SPECIAL ANALYTICAL SERVICES DRINKING WATER  
VOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	1.5
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	1.5
Dibromochloromethane	124-48-1	1.5
1,1-Dichloroethane	75-34-3	1.5
1,2-Dichloroethane	107-06-2	1.5
1,1-Dichloroethene	75-35-4	1.5
Total-1,2-Dichloroethene	540-59-0	1.5
1,2-Dichloropropane	78-87-5	1.5
cis-1,3-Dichloropropene	10061-01-5	2
trans-1,3-Dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride *	75-09-2	1
1,1,2,2-Tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene *	108-88-3	1.5
1,1,1-Trichloroethane	71-55-6	1.5
1,1,2-Trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	1.5
Acrolein	107-02-8	25
Acetone *	67-64-1	5
Acrylonitrile	107-13-1	25
Carbon disulfide	75-15-0	3
2-Butanone	78-93-3	5
Vinyl acetate	108-05-4	5
4-Methyl-2-pentanone	108-10-1	1.5
2-Hexanone	519-78-6	5
Styrene	100-42-5	1
Xylene (total)	1330-02-7	1.5

\* Common laboratory solvents.

Blank limit is 5x method detection limit.

( ) Values in parentheses are estimates.

actual values are being determined at this time.

TABLE C (cont.)  
SAS DRINKING WATER  
SEMIVOLATILES QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aniline	62-53-3	1.5 ug/l
Bis(2-chloroethyl)ether	111-44-4	1.5
Phenol	108-95-2	2
2-Chlorophenol	95-57-8	2
1,3-Dichlorobenzene	541-73-1	2
1,4-Dichlorobenzene	106-46-7	2
1,2-Dichlorobenzene	95-50-1	2.5
Benzyl alcohol	100-51-6	2
Bis(2-chloroisopropyl)ether	39638-32-9	2.5
2-Methylphenol	95-48-7	1
Hexachloroethane	67-72-1	2
n-Nitrosodipropylamine	621-64-7	1.5
Nitrobenzene	98-95-3	2.5
4-Methylphenol	106-44-5	1
Isophorone	78-59-1	2.5
2-Nitrophenol	88-75-5	2
2,4-Dimethylphenol	105-67-9	2
Bis(2-Chloroethoxy)methane	111-91-1	2.5
2,4-Dichlorophenol	120-83-2	2
1,2,4-Trichlorobenzene	120-82-1	2
Naphthalene	91-20-3	2
4-Chloroaniline	106-47-8	2
Hexachlorobutadiene	87-68-3	2.5
Benzoic Acid	65-85-0	20
2-Methylnapthalene	91-57-6	2
4-Chloro-3-methylphenol	59-50-7	1.5
Hexachlorocyclopentadiene	77-47-4	2
2,4,6-Trichlorophenol	88-06-2	1.5
2,4,5-Trichlorophenol	95-95-4	1.5
2-Chloronapthalene	91-58-7	1.5
Acenaphthylene	208-96-8	1.5
Dimethyl phthalate	131-11-3	1.5
2,6-Dinitrotoluene	606-20-2	1
Acenaphthene	83-32-9	1.5
3-Nitroaniline	99-09-2	2.5
Dibenzofuran	132-64-9	1
2,4-Dinitrophenol	51-28-5	(15)
2,4-Dinitrotoluene	121-14-2	1

TABLE C (Cont.)  
SAS DRINKING WATER  
SEMIVOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	1 ug/L
4-Nitrophenol	100-02-7	1.5
4-Chlorophenyl phenyl ether	7005-72-3	1
Diethyl phthalate	84-66-2	1
4,6-Dinitro-2-methylphenol	534-52-1	(15)
1,2-Diphenylhydrazine	122-66-7	1
n-Nitrosodiphenylamine *	86-30-6	
Diphenylamine *	122-39-4	1.5
4-Nitroaniline	100-01-6	3
4-Bromophenyl-phenylether	101-55-3	1.5
Hexachlorobenzene	118-74-1	1.5
Pentachlorophenol	87-86-5	2
Phenanthrene	85-01-8	1
Anthracene	120-12-7	2.5
di-n-Butyl phthalate	84-74-2	2
Fluoranthene	206-44-0	1.5
Pyrene	129-00-0	1.5
Butyl benzyl phthalate	85-68-7	3.5
Chrysene **	218-01-9	
Benzo(A)Anthracene **	56-55-3	1.5
bis(2-ethylhexyl)phthalate	117-81-7	1
di-n-Octyl phthalate	117-84-0	1.5
Benzo(b)fluoranthene ***	205-99-2	
Benzo(k)fluoranthene ***	207-08-9	1.5
Benzo(a)pyrene	50-32-8	2
Indeno(1,2,3-cd)pyrene	193-39-5	3.5
Dibenzo(a,h)anthracene	53-70-3	2.5
Benzo(g,h,i)perylene	191-24-2	4
2-Nitroaniline	88-74-4	1

\* These two parameters are reported as a total.

\*\* These two parameters are reported as a total.

\*\*\* These two parameters are reported as a total.

( ) Values in parentheses are estimates.

The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)  
SAS DRINKING WATER  
PESTICIDE AND PCB QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	0.010
beta BHC	319-85-7	0.005
delta BHC	319-86-8	0.005
gamma BHC (Lindane)	58-89-9	0.005
alpha-Chlordane	5103-71-9	0.020
gamma-Chlordane	5103-74-2	0.020
4,4'-DDD	72-54-8	0.020
4,4'-DDE	72-55-9	0.005
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	0.10
Endrin	72-20-8	0.010
Endrin Aldehyde	7421-93-4	(0.030)
Endrin Ketone	53494-70-5	0.030
Heptachlor	76-44-8	0.030
Heptachlor Epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	0.25
Aroclor-1016	12674-11-2	0.10
Aroclor-1221	11104-28-2	0.10
Aroclor-1232	11141-16-5	0.10
Aroclor-1242	53469-21-9	0.10
Aroclor-1248	12672-29-6	0.10
Aroclor-1254	11097-69-1	0.10
Aroclor-1260	11096-82-5	0.10

( ) Values in parentheses are estimates.  
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)  
SAS DRINKING WATER  
INORGANIC DETECTION LIMITS

PARAMETER	PROCEDURE	DETECTION LIMIT
Aluminum	ICP	100
Antimony	GFAA	5
Arsenic	GFAA	5
Barium	ICP	50
Beryllium	ICP	5
Cadmium	GFAA	0.5
Calcium	ICP	1000
Chromium	ICP	10
Cobalt	ICP	10
Copper	ICP	10
Iron	ICP	100
Lead	GFAA	2
Magnesium	ICP	1000
Manganese	ICP	10
Mercury	Cold Vapor	0.2
Nickel	ICP	20
Potassium	ICP	2000
Selenium	GFAA	2
Silver	ICP	5
Sodium	ICP	1000
Thallium	GFAA	2
Tin	ICP	40
Vanadium	ICP	10
Zinc	ICP	20
Cyanide	Colorimetric	10

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services (RAS) for related CAS #.

## 1. LOCATION OF WELL

County Name

NON-

NON-RESPONSIVE

Range Number

N

NON-RESPONSIVE

Distance and Direction from Road Intersections or Street Address and City of Well Location

NON-RESPONSIVE

id with "X."

Sketch map of well location.

NON-RESPONSIVE

## 2. FORMATION LOG

COLOR

HARDNESS OF FORMATION

FROM

TO

Sand

Brown

med

0

57

Water Sand

Brown

med

57

70

NON-RESPONSIVE

NON-RESPONSIVE

NON-RESPONSIVE

## LOCATED BY

1. ☐ Address Verification  
2. ☐ Name on Mailbox  
3. ☐ Lot Block  
4. ☐ Plat Book  
5. ☐ Info. From Owner  
6. ☒ Info. From Neighbor  
7. ☐ Other \_\_\_\_\_  
☐ Can't Locate State Why

Use a second sheet, if needed.

## 15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

## 4. WELL DEPTH (completed)

70

ft.

Date of Completion

5/29/1976

5. ☒ Cable tool ☐ Reverse ☐ Driven ☐ Dug  
☐ Hollow rod ☐ Air ☐ Bored ☐  
☐ Rotary ☐ Jetted ☐ Power Auger

## 6. USE

- ☒ Domestic ☐ Public Supply ☐ Industry  
☐ Irrigation ☐ Air Conditioning ☐ Commercial  
☐ Test Well ☐

## 7. CASING

DIAM.

Threaded ☒ 1Welded ☐ 2

HEIGHT: Above/Below

Surface \_\_\_\_\_ ft.

Black ☐ 2Galv. ☐ 4

4

in. to 70

ft. depth

in. to \_\_\_\_\_

ft. depth

in. to \_\_\_\_\_

ft. depth

Drive Shoe? Yes ☒ No

## 8. SCREEN

Or open hole

Make Johnson

from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Type stainless steel

Dia. 4"

Slot/Gauge 10

Length 4' 10"

Set between 66.5

70

ft. and \_\_\_\_\_ ft.

ft. and \_\_\_\_\_ ft.

ft. and \_\_\_\_\_ ft.

FITTINGS:

## 9. STATIC WATER LEVEL

53

ft. ☒ below ☐ above

Date Measured 5/29/76

## 10. PUMPING LEVEL (below land surface)

53

ft. after 1

hrs. pumping

12

g.p.w.

ft. after \_\_\_\_\_

hrs. pumping

g.p.w.

## 11. WELL HEAD COMPLETION

- ☐ Pitless adapter ☐ Basement offset ☒ At least 12" above grade

## 12. Well grouted?

☐ Yes ☒ No Cu. Yds. \_\_\_\_\_1 ☐ Heat cement2 ☐ Bentonite3 ☐

Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

## 13. Nearest source of possible contamination

\_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type

Well disinfected upon completion? Yes ☒ No ☐

## 14. PUMP

Don

Date installed 6/1/76

☐ Not installed

Manufacturer's Name Aeromotor

Model Number 8D 12x 50 HP 1/2 Volts 230

Length of drop pipe 53 ft. capacity \_\_\_\_\_ g.p.w.

Material of drop pipe 1" galvanized

Type ☒ Submersible ☐ L.S. Turbine ☐ Reciprocating2 ☐ Jet4 ☐ Centrifugal6 ☐

## 16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Trant Wel 1 Drilling 73157

Licensee Business Name

License No.

Address 18 Lincoln Ave. N.E. St Cloud

Signed \_\_\_\_\_ Date 6/1/76

Authorized Representative

Sylvester Majerus

1. LOCATION OF WELL		Fraction		Section Number		Township		Range	
County Name		NON-		N		N		N	
Distance and Direction from Road Intersections or Street Address and City of Well Location									

3. PROPERTY OWNER'S NAME	WELL LOG 2
NON-RESPONSIVE	

Exact location of well in section grid  
NON-RESPONSIVE

4. WELL DEPTH (completed)	Date of Completion
81	10-14-75

5. USE	6. USE
<input checked="" type="checkbox"/> Cable tool <input type="checkbox"/> Hollow rod <input type="checkbox"/> Rotary	<input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Irrigation <input type="checkbox"/> Test Well
<input type="checkbox"/> Reverse <input type="checkbox"/> Air <input type="checkbox"/> Jetted	<input type="checkbox"/> Public Supply <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Commercial
<input type="checkbox"/> Driven <input type="checkbox"/> Bored <input type="checkbox"/> Power Auger	<input type="checkbox"/> Industry <input type="checkbox"/> Commercial

7. CASING	HEIGHT: Above/Below
DIAM.	Surface _____ ft.
Threaded <input checked="" type="checkbox"/> 1	Weight _____ lbs./ft.
Black <input type="checkbox"/> 2	Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4 in. to 81 ft. depth	
in. to _____ ft. depth	
in. to _____ ft. depth	

8. SCREEN	Or open hole
Make _____	from _____ ft. to _____ ft.
Type _____	Dis. _____
Slot/Gauge _____	Length _____
Set between _____ ft. and _____ ft.	FITTINGS:
_____ ft. and _____ ft.	
_____ ft. and _____ ft.	

9. STATIC WATER LEVEL	Date Measured 10-14-75
50 ft. <input type="checkbox"/> below <input type="checkbox"/> above land surface	
10. PUMPING LEVEL (below land surface)	
50 ft. after 1 hrs. pumping _____ g.p.m.	
_____ ft. after _____ hrs. pumping _____ g.p.m.	

11. WELL HEAD COMPLETION	
<input checked="" type="checkbox"/> Pitless adapter <input type="checkbox"/> Basement offset <input type="checkbox"/> At least 12" above grade	
12. Well grouted?	
<input type="checkbox"/> Yes <input type="checkbox"/> No Cu. Yds. _____	
1 <input type="checkbox"/> Heat cement 2 <input type="checkbox"/> Bentonite 3 <input type="checkbox"/> _____	
Depth: from _____ ft. to _____ ft.	
from _____ ft. to _____ ft.	

13. Nearest source of possible contamination	
_____ feet _____ direction _____ type	
Well disinfected upon completion? Yes <input type="checkbox"/> No <input type="checkbox"/>	
14. PUMP	
Date installed 12-17-75	
<input type="checkbox"/> Not installed	
Manufacturer's Name ACME	
Model Number 301-20 HP 1/2 Volts 220	
Length of drop pipe 63 ft. capacity 12 g.p.m.	
Material of drop pipe 1" GALVANIZED	
Type: 1 <input type="checkbox"/> Submersible 3 <input type="checkbox"/> U.S. Turbine 5 <input type="checkbox"/> Reciprocating	
2 <input type="checkbox"/> Jet 4 <input type="checkbox"/> Centrifugal 6 <input type="checkbox"/> _____	

16. WATER WELL CONTRACTOR'S CERTIFICATION	
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.	
Licensee Business Name _____ License No. _____	
Address _____	
Signed _____ Date _____	
Authorized Representative	

LOCATED BY	
1 - <input type="checkbox"/> Address Verification	
2 - <input type="checkbox"/> Name on Mailbox	
3 - <input type="checkbox"/> Lot Block	
4 - <input type="checkbox"/> Plat Book	
5 - <input checked="" type="checkbox"/> Info. From Owner	
6 - <input type="checkbox"/> Info. From Neighbor	
7 - <input type="checkbox"/> Other _____	
<input type="checkbox"/> Can't Locate State Why _____	

Use a second sheet, if needed.  
REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

3. PROPERTY OWNER'S NAME  
Address **NON-RESPONSIVE**

WELL LOG 3  
ext. 405

4. WELL DEPTH (completed) **85' 6" wall** ft. Date of Completion **10-19-78**

5. ☒ Cable tool ☐ Reverse ☐ Trench ☐ Dig  
☐ Handline rod ☐ Air ☐ Bored ☐ **FD-1**  
☒ Hydraulic ☐ Jetted ☐ Power Auger

6. USE  
☒ Domestic ☐ Public Supply ☐ Industry  
☐ Irrigation ☐ Municipal ☐ Commercial  
☐ Test Well ☐ Air Conditioning ☐

7. CASING  
☒ Black ☐ Threaded HEIGHT: Above/Below  
☐ Galv. ☒ Welded Surface **12"** ft.  
☐ Drive Shoe? Yes ☐ No  
\_\_\_\_ in. to **55** ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_ in. to \_\_\_\_ ft.  
\_\_\_\_ in. to \_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_ in. to \_\_\_\_ ft.  
\_\_\_\_ in. to \_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_ in. to \_\_\_\_ ft.

8. SCREEN  
Make \_\_\_\_\_ Or open hole from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Type **Plastic** Dia. **5**  
Slot/Gauge **40** Length **20** FITTINGS  
Set between **55** ft. and **85** ft.  
\_\_\_\_ ft. and \_\_\_\_ ft.  
\_\_\_\_ ft. and \_\_\_\_ ft.

9. STATIC WATER LEVEL  
**43** ft. ☒ Below land surface ☐ Above Date Measured **10-19-78**

10. PUMPING LEVEL (below land surface)  
**60** ft. after **1** hrs. pumping **20** g.p.m.  
\_\_\_\_ ft. after \_\_\_\_ hrs. pumping \_\_\_\_ g.p.m.

11. WELL HEAD COMPLETION  
☐ Pressure adapter ☐ Basement offset ☒ At least 1" above grade

12. Well grouted?  
☐ Yes ☒ No Cu. Yds. \_\_\_\_\_  
☐ Neat Cement ☐ Bretonite ☐  
Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination  
**100** feet **NO.** direction \_\_\_\_\_ way  
Well disinfected upon completion? Yes ☒ No ☐

14. PUMP  
Date installed **10-24-78**  
☐ Not installed  
Manufacturer's Name **Webtrol**  
Model Number \_\_\_\_\_ HP **3/4** Volts **230**  
Length of drop pipe **52'** ft. Capacity \_\_\_\_\_ g.p.m.  
Material of drop pipe **1" galvanized**  
Type: ☒ Submersible ☐ L.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐

15. WATER WELL CONTRACTOR'S CERTIFICATION  
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
**Front Wells, Inc.** **73457**  
Licensee Business Name License No.

REMARKS, ELEVATION, SOURCE OF DATA, etc.

A-Q WTA  
132

MINN. GEOLOGICAL SURVEY COPY

5/76 3000  
7/76 3000

Township Name	Township Number	Range Number	Section No.	Fraction	
NON-RESPON	NON-RESPON	NON-RESPON	NON-RESPON		NON-RESPON

**NON-RESPONSIVE**

Distance and Direction from Road Intersections or Street Address and City of Well Location

NON- [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

Show exact location of well in section grid with "X."

# NON-RESPONSIVE

Sketch map of well location

Address Name
Block Number
Lot Number

NON-RESPONSE

	COLOR	HARDNESS OF FORMATION	FROM	TO
Sand	Brown	soft	0	16
Sand Fine	Brown		16	35
Clay	Gray		35	42
Sand	Gray		42	67
Clay	Gray		67	70

## NON-RESPONSIVE

4. WELL DEPTH (completed)		Date of Completion
56		1977
5. <input type="checkbox"/> Cable tool <input type="checkbox"/> Reverse <input type="checkbox"/> Driven <input type="checkbox"/> Drag		
<input type="checkbox"/> Handrow rod <input type="checkbox"/> Air <input type="checkbox"/> Sued <input type="checkbox"/> _____		
<input checked="" type="checkbox"/> (Pump) <input type="checkbox"/> Jetted <input type="checkbox"/> Power Auger		

6. USE

<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Public Supply	<input type="checkbox"/> Industry
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Municipal	<input type="checkbox"/> Commercial
<input type="checkbox"/> Test Well	<input type="checkbox"/> Air Conditioning	<input type="checkbox"/>

7. CASING		HEIGHT: Above/Below		HOLE DIAM	
<input checked="" type="checkbox"/> Back	<input checked="" type="checkbox"/> Threaded				
<input type="checkbox"/> Cab.	<input type="checkbox"/> Welded	Surface	<u>1</u> ft.		
<input type="checkbox"/>	<input type="checkbox"/>	Drive Shoe?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
<u>4</u> in. to	<u>51</u> ft.	Weight	<u>11</u> lbs./ft.	<u>    </u> in. to	<u>    </u> ft.
<u>    </u> in. to	<u>    </u> ft.	Weight	<u>    </u> lbs./ft.	<u>    </u> in. to	<u>    </u> ft.
<u>    </u> in. to	<u>    </u> ft.	Weight	<u>    </u> lbs./ft.	<u>    </u> in. to	<u>    </u> ft.

6. SCREEN

Make Johnson

Type stainless steel

Slot/Gauze 40

Set between 51 ft. and 56 ft.

\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

Or open hole from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

Dis. 4.00

Length 4' 9 1/2"

FITTINGS:

9. STATIC WATER LEVEL  
27 ☒ below hand surface ☐ above Date Measured 6-4-77

10. PUMPING LEVEL (below land surface)

22 ft. after 0 hrs. pumping 18 s.p.m.

       ft. after        hrs. pumping        s.p.m.

11. WELL HEAD COMPLETION

☐ Pitless adapter      ☐ Basement offset      ☐ At least 12" above grade

12. Well grouted? ☐ Yes ☒ No Cn. Yes. \_\_\_\_\_  
☐ Neat Cement ☒ Bentonite ☐ \_\_\_\_\_  
 Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest sources of possible contamination

77 feet N.W. direction Septic type

Well disinfected upon completion? Yes ☒ No ☐

14. PUMP

**Don**

Date installed **6-9-77**

☐ Not installed

Manufacturer's Name **American**

Model Number **SD 12x 90** HP **4** Volts **230**

Length of drop pipe **28** ft. capacity **12** g.p.m.

Material of drop pipe **1" galvanized steel**

Type: ☒ Submersible ☐ L. S. Turbine ☐ Reciprocating

☐ Jet ☐ Centrifugal ☐

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Frank Mills Inc. 79157  
Licensee Business Name License No.

Address Rt #4 St. Cloud, Mn. 56301

Signed A. H. [illegible] Date 7-7-77

Authorized Representative  
**Ken Zupan** Date **6-4-77**

NAME of Driver	5/74 30M
	7/76 30M

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

MINN. GEOLOGICAL SURVEY COPY

5/74 30M  
7/76 30M

1. LOCATION OF WELL  
 NON-RESPONSIVE  
 NON-RESPONSIVE  
 NON-RESPONSIVE  
 NON-RESPONSIVE  
 NON-RESPONSIVE  
 NON-RESPONSIVE

2. PROPERTY OWNER'S NAME  
 NON-RESPONSIVE

3. WELL DEPTH (completed)  
 94'

4. DATE OF COMPLETION  
 3/22/78

5. USE  
☒ Domestic  
☐ Irrigative  
☐ Test Well  
☐ Public Supply  
☐ Municipal  
☐ Air Conditioning  
☐ Industry  
☐ Commercial  
☐ Other

6. CASING  
☒ Threaded  
☐ Welded  
☐ Cast  
☐ Other

7. SCREEN  
 Make Johnson  
 Type Stainless Steel  
 Size 10  
 Set between 90' and 94'

8. STATIC WATER LEVEL  
 54' below surface  
 Date Measured 3/22/78

9. PUMPING LEVEL (below land surface)  
 56' after 1 hrs. pumping 18' p.p.m.  
 after 1 hrs. pumping 18' p.p.m.

10. WELL HEAD COMPLETION  
☒ Polished adapter  
☐ Flange offset  
☒ At least 12" above grade

11. WELL GROUTED?  
☐ Yes  
☒ No  
 Cn. Yds. \_\_\_\_\_

12. NEAREST SOURCE OF POTENTIAL CONTAMINATION  
 \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type  
 Well disinfected upon completion? ☒ Yes ☐ No

13. PUMP  
 Date Installed 6/27/78  
 Not installed ☐  
 Manufacturer's Name Gould  
 Model Number 10E105412 HP 1/2 Volts 230  
 Length of drop pipe 63 ft. capacity 8 g.p.m.  
 Material of drop pipe Galvanized  
 Type ☒ Submersible ☐ S.T. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐ Other

14. WATER WELL CONTRACTOR'S CERTIFICATION  
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
 Donahoe Well & Pump Co. 73061  
 Address Route 2 St. Joseph, Minn. 56374  
 Signed \_\_\_\_\_ Date 3/22/78  
 Name of Driller Quentin Donahoe

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.  
 A - QWTA

	COLOR	HARDNESS OF FORMATION	FROM	TO
Topsoil	Black	Soft	0'	1'
Sand	Brown	Soft	1'	62'
Sand	Gray	Hard	62'	90'
Gravel & Water			90'	94'

NON-RESPONSIVE

LOCATED BY

1 - ☐ Address Verification  
 2 - ☐ Name on Mailbox  
 3 - ☐ Lot Block  
 4 - ☐ Flat Book  
 5 - ☒ Info. From Owner  
 6 - ☐ Info. From Neighbor  
 7 - ☐ Other \_\_\_\_\_  
☐ Can't Locate State Why

3. **NON-RESPONSIVE**

**Address**

## WELL LOG 6

# NON-RESPONSIVE

**Sketch map of well location.**

Addition Name
Block Number
Lot Number

[illegible]

Use a second sheet, if needed

4. WELL DEPTH (completed) 94 ft. 4-26-83 Date of Cas

5. ☒ Electric Tumb 4 ☐ Reverse 7 ☐ Driven 10 ☐ Dig  
☐ Handrow end 5 ☐ Air 8 ☐ Bored 11 ☐ \_\_\_\_\_  
☐ Rotary 6 ☐ Jetted 9 ☐ Power Auger

6. USE  
☒ Domestic 4 ☒ Electric Supply 7 ☐ Industry  
☐ Irrigation 5 ☐ Municipal 8 ☐ Commercial  
☐ Test Well 6 ☐ Air Conditioning 9 ☐ \_\_\_\_\_

7. CASING  
☒ Black 4 ☐ Threaded HEIGHT Above/Below 2 ft.  
☐ Galv. 5 ☒ Welded Surface \_\_\_\_\_ ft.  
☐ Plastic 6 ☐ Drive Shoe? Yes ☒ No \_\_\_\_\_  
10 in. to 73 ft. Weight \_\_\_\_\_ lbs./ft. 10 in. to 94 ft.  
\_\_\_\_\_ in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_\_ in. to \_\_\_\_\_ ft.  
\_\_\_\_\_ in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_\_ in. to \_\_\_\_\_ ft.

8. SCREEN JOHNSON On open hole  
Make \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Type 55 Dia. 10" telesc.  
Shot/Gauge 40-10-35 Length 20' 10"  
Set between 73 ft. and 94 ft. FITTINGS  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL  
56 ft. ☒ Below land surface ☐ Above Date Measured 4-7-83

10. PUMPING LEVEL (below land surface)  
63 ft. after 2 hrs. pumping 230 g.p.m.  
\_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.m.

11. WELL HEAD COMPLETION  
☒ Wellhead adapter, manufacturer Monitor model 10" well  
☐ Basement offset 12" at least 12" above grade

12. WELL GROUTED?  
☐ Yes ☒ No  
☐ Neat Cement ☐ Bentonite ☐ \_\_\_\_\_  
Grout material \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft. Cu Yds. \_\_\_\_\_

13. NEAREST SOURCES OF POSSIBLE CONTAMINATION  
\_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type  
Well disinfected upon completion? Yes ☒ No ☐

14. PUMP  
Date installed \_\_\_\_\_ ☐ Not installed  
Manufacturer's Name \_\_\_\_\_  
Model Number \_\_\_\_\_ HP \_\_\_\_\_ Volts \_\_\_\_\_  
Length of drop pipe \_\_\_\_\_ ft. capacity \_\_\_\_\_ g.p.m.  
Material of drop pipe \_\_\_\_\_  
Type: ☐ Submersible ☐ L.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐ \_\_\_\_\_

13. REMARKS, ELEVATION, SOURCE OF DATA, etc.

#### 16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Fischer Well Co. 73135  
Licensee Business Name License No.

Address Box 1101 St Cloud

Signed Keith Donahue Date 8-9-83  
Authorized Representative

DAN DONABAUGH Date 8-9-93  
Name of Driver

Name of Driller

IMPORTANT:  
FILE WITH DEED — WELL OWNER COPY

HE 01295-01

5/74	30M
7/76	30M
7/78	30M
2/82	10M

APPENDIX E

WELL LOGS OF THE AREA OF THE SITE

DEPARTMENT OF HEALTH  
NON-RESPONSIVE

WATER WELL RECORD

for Water Sample

WELL LOG 1

1. PROPERTY OWNER'S NAME

NON-RESPONSIVE

CL-20

Show exact location of well in section grid with "X."

Sketch map of well location.

NON-RESPONSIVE

NON-RESPONSIVE

2. FORMATION LOG

Sand Brown med 0 57

Water Sand Brown med 57 70

NON-RESPONSIVE

NON-RESPONSIVE

## LOCATED BY

- 1 - ☐ Address Verification  
2 - ☐ Name on Mailbox  
3 - ☐ Lot Block  
4 - ☐ Plat Book  
5 - ☐ Info. From Owner  
6 - ☒ Info. From Neighbor  
7 - ☐ Other \_\_\_\_\_  
☐ Can't Locate State Why

4. WELL DEPTH (completed)

70

Date of Completion

5/29/1976

5. ☒ Cable tool ☐ Reverse ☐ Driven ☐ Dig  
☐ Hollow rod ☐ Air ☐ Bored ☐ \_\_\_\_\_  
☐ Rotary ☐ Jetted ☐ Power Auger

6. USE

- ☒ Domestic ☐ Public Supply ☐ Industry  
☐ Irrigation ☐ Air Conditioning ☐ Commercial  
☐ Test Well ☐ \_\_\_\_\_

7. CASING

- DIAM. Threaded ☐ 1 Welded ☐ Surface \_\_\_\_\_ ft.  
Black ☐ 2 Galv. ☐ \_\_\_\_\_  
4 in. to 70 ft. depth Weight \_\_\_\_\_ lbs./ft.  
in. to \_\_\_\_\_ ft. depth  
in. to \_\_\_\_\_ ft. depth Drive Shoe? Yes ☒ No ☐

8. SCREEN

- Make Johnson Or open hole  
Type stainless steel from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Slot/Gauge 10 Dia. 4"  
Set between 66.5 ft. and 70 ft. Length 4' 10"  
Fittings: \_\_\_\_\_  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL

53 ft. ☒ below ☐ above land surface Date Measured 5/29/76

10. PUMPING LEVEL (below land surface)

53 ft. after 1 hrs. pumping 12 g.p.w.  
\_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.w.

11. WELL HEAD COMPLETION

- ☐ Pitless adapter ☐ Basement offset ☒ At least 12" above grade

12. Well grouted?

- ☐ Yes ☒ No Cu. Yds. \_\_\_\_\_  
☐ Best cement ☐ Bentonite ☐ \_\_\_\_\_  
Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination

\_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_  
Well disinfected upon completion? Yes ☒ No ☐

14. PUMP

Don

Date installed 6/1/76

☐ Not installed

Manufacturer's Name Aermotor  
Model Number SD 12x 50 HP 1/2 Volts 230  
Length of drop pipe 53 ft. capacity \_\_\_\_\_ g.p.w.  
Material of drop pipe 1" galvanized  
Type: ☒ Submersible ☐ L.S. Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐ \_\_\_\_\_

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Traut Wel 1 Drilling 73157

License Business Name

License No.

Address 18 Lincoln Ave. N.E. St Cloud

Signed \_\_\_\_\_ Date 6/1/76

Authorized Representative

Sylvester Majerus

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.  
Use a second sheet, if needed.

A - QWTA

NON-RESPONSIVE

1-08 for Water Sample

123153

3. SURVEYOR'S NAME

NON-RESPONSIVE

NON-RESPONSIVE

WELL LOG 2

exact location of well in section grid with "X" Sketch map of well location.

NON-RESPONSIVE

NON-RESPONSIVE

2. FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
DIRT	Black	Soft	0	2
SAND	Brown	Med	2	72
Water Sand	Gray	Hard	72	81

NON-RESPONSIVE

NON-RESPONSIVE

## LOCATED BY

1. ☐ Address Verification
2. ☐ Name on Mailbox
3. ☐ Lot Block
4. ☐ Plat Book
5. ☒ Info. From Owner
6. ☐ Info. From Neighbor
7. ☐ Other \_\_\_\_\_
- ☐ Can't Locate State Why \_\_\_\_\_

REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

MINI GEOLOGICAL SURVEY COPY

4. WELL DEPTH (completed)

81

Date of Completion

10-14-75

5. ☐ Cable tool ☐ Reverse ☐ Driven ☐ Dug  
☐ Hollow rod ☐ Air ☐ Bored ☐  
☐ Rotary ☐ Jetted ☐ Power Auger

6. USE

- ☒ Domestic ☐ Public Supply ☐ Industry  
☐ Irrigation ☐ Air Conditioning ☐ Commercial  
☐ Test Well ☐

7. CASING

- DIAM. Threaded ☒ Welded ☐  
Black ☐ Galv. ☐  
4 in. to 81 ft. depth  
in. to ft. depth  
in. to ft. depth
- HEIGHT: Above/Below  
Surface \_\_\_\_\_ ft.  
Weight \_\_\_\_\_ lbs./ft.  
Drive Shoe? Yes ☒ No

8. SCREEN

- Or open hole  
Make \_\_\_\_\_ from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Type \_\_\_\_\_ Dia. \_\_\_\_\_  
Slot/Gauge \_\_\_\_\_ Length \_\_\_\_\_  
Set between \_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.
- FITTINGS:

9. STATIC WATER LEVEL

- 50 ft. ☐ below ☐ above  
land surface  
Date Measured 10-14-75

10. PUMPING LEVEL (below land surface)

- 50 ft. after 1 hrs. pumping \_\_\_\_\_ g.p.m.  
ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.m.

11. WELL HEAD COMPLETION

- ☒ Pitless adapter ☐ Basement offset ☐ At least 12" above grade

12. Well grouted?

- ☐ Yes ☐ No Cu. Yds. \_\_\_\_\_  
1 ☐ Best cement 2 ☐ Bentonite 3 ☐  
Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination

- \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type  
Well disinfected upon completion? Yes ☐ No ☐

14. PUMP

- Date installed 12-17-75  
☐ Not installed  
Manufacturer's Name Aermotor  
Model Number SP1220 HP 1/2 Volts 220  
Length of drop pipe 62 ft. capacity 12 g.p.m.  
Material of drop pipe 1" GALVANIZED  
Type: 1 ☐ Submersible 3 ☐ L.S. Turbine 5 ☐ Reciprocating  
2 ☐ Jet 4 ☐ Centrifugal 6 ☐

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Licensee Business Name

Licensee No.

Address

Signed

Authorized Representative

Date



### Sketch map of well location

NON-RESPON

4. WELL DEPTH (completed)		Date of Completion	
<b>36</b>		R. <b>4-4-1977</b>	
5.			
<input type="checkbox"/> 1' shdy tool	<input type="checkbox"/> 4' Reverse	<input type="checkbox"/> 7' Thrive	<input type="checkbox"/> 10' Tag
<input type="checkbox"/> 2' Hrdw rod	<input type="checkbox"/> 5' Air	<input type="checkbox"/> 8' Board	<input type="checkbox"/> 11' _____
<input checked="" type="checkbox"/> 3' Riser	<input type="checkbox"/> 6' Jetted	<input type="checkbox"/> Power Auger	
6. USE:			
<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Public Supply	<input type="checkbox"/> Industry	
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Municipal	<input type="checkbox"/> Commercial	
<input type="checkbox"/> Test Well	<input type="checkbox"/> Air Conditioning	<input type="checkbox"/> _____	
7. CASING		HOLE DIAM	
<input checked="" type="checkbox"/> 1" Black	<input checked="" type="checkbox"/> Threaded	HEIGHT: Above/Below _____	
<input type="checkbox"/> 2" Galv.	<input type="checkbox"/> Welded	Surface <u>1</u> ft.	
<input type="checkbox"/> 3" _____	<input type="checkbox"/> _____	Drive Shaft? Yes <input checked="" type="checkbox"/> No _____	
<u>4</u> in. to <u>31</u> ft. Weight <u>11</u> lbs./ft.		_____ in. to _____ ft.	
_____ in. to _____ ft. Weight _____ lbs./ft.		_____ in. to _____ ft.	
_____ in. to _____ ft. Weight _____ lbs./ft.		_____ in. to _____ ft.	
8. SCREEN		On open hole	
Make <u>Johann</u>		from _____ ft. to _____ ft.	
Type <u>Stainless steel</u>		Dia. <u>4"</u>	
Slot/Gauge <u>40</u>		Length <u>4' 8"</u>	
FITTINGS:			
Set between <u>31</u> ft. and <u>36</u> ft.		_____ ft. and _____ ft.	
_____ ft. and _____ ft.		_____ ft. and _____ ft.	

**NON-RESPONSIVE**

9. STATIC WATER LEVEL  
27 ft. below land surface ☒ below ☐ above Date Measured 6-4-77

10. PUMPING LEVEL (below land surface)  
28 ft. after 8 hrs. pumping 18 g.p.m.  
ft. after hrs. pumping g.p.m.

11. WELL HEAD COMPLETION  
☒ Pitless adapter ☐ Basement offset ☐ At least 12" above grade

12. Well grouted?  
☐ Yes ☒ No Co. Yds. \_\_\_\_\_  
☐ Heat Cement ☐ Bentonite ☐ \_\_\_\_\_  
Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest sources of possible contamination  
77 feet N.W. direction Septic type  
Well disinfected upon completion? Yes ☒ No ☐

14. PUMP  
200 Date Installed 6-2-77  
☐ Not Installed  
Manufacturer's Name Aeromator  
Model Number 8D 12x 90 HP 4 Volts 230  
Length of drop pipe 28 ft. capacity 12 g.p.m.  
Material of drop pipe 1" galvanized steel  
Type: ☒ Submersible ☐ L. & Turbine ☐ Reciprocating  
☐ Jet ☐ Centrifugal ☐

Use a second sheet, if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

MINN. GEOLOGICAL SURVEY COPY

10. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

**Trant Wells Inc.** **73157**  
Licensee Business Name License No.

**Rt #4 St. Cloud, Mn. 56301**  
Address

**7-7-77**  
Signed *[Signature]* Date  
Authorized Representative

**Ken Zupan** **6-4-77**  
Name of Driller Date

NON-RESPONSIVE

NON-RESPONSIVE

NON-RESPONSIVE

Addition Name
Block Number
Lot Number

FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
Topsoil	Black	Soft	0'	1'
Sand	Brown	Soft	1'	62'
Sand	Gray	Hard	62'	90'
Gravel & Water			90'	94'

NON-RESPONSIVE

LOCATED BY	
1 - <input type="checkbox"/> Address Verification	
2 - <input type="checkbox"/> Name on Mailbox	
3 - <input type="checkbox"/> Lot Block	
4 - <input type="checkbox"/> Plat Book	
5 - <input checked="" type="checkbox"/> Info. From Owner	
6 - <input type="checkbox"/> Info. From Neighbor	
7 - <input type="checkbox"/> Other _____	
<input type="checkbox"/> Can't Locate State Why	

Use a second sheet if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

A - QWTA

1. PROPERTY OWNER'S NAME

Address

4. WELL DEPTH (completed)

Date of Completion

94'

3/2/78

5. ☒ Shallow test ☐ Reverse ☐ Drive ☐ Dig
- ☐ Hydro test ☐ Air ☐ Bored ☐ \_\_\_\_\_
- ☐ Rotary ☐ Jetted ☐ Power Auger

6. USE

- ☒ Domestic ☐ Public Supply ☐ Industry
- ☐ Irrigation ☐ Municipal ☐ Commercial
- ☐ Test Well ☐ Air Conditioning ☐ \_\_\_\_\_

7. CASING

- ☒ Threaded ☐ Welded
- Surface 1' Above
- Drive Shoe? Yes ☒ No ☐
- 4 in. to 94 ft. Weight 11 lbs./ft. 4 in. to 94 ft.
- in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. in. to \_\_\_\_\_ ft.
- in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. in. to \_\_\_\_\_ ft.

8. SCREEN

- Make Johnson Or open hole from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.
- Type Stainless Steel Dia. 4"
- Shot/Coarse 10 Length 4'
- Set between 90 ft. and 94 ft.
- \_\_\_\_\_ ft. and \_\_\_\_\_ ft.
- \_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL

- 54' ☒ Below land surface ☐ Above land surface Date Measured 3/2/78

10. PUMPING LEVEL (below land surface)

- 54 ft. after 1 hrs. pumping 18 p.p.m.
- \_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ p.p.m.

11. WELL HEAD COMPLETION

- ☒ Polished adapter ☐ Basement offset ☒ At least 12" above grade

12. Well grouted?

- ☐ Yes ☒ No Cn. Yds. \_\_\_\_\_
- ☐ Heat Cement ☐ Bentonite ☐ \_\_\_\_\_
- Depth: from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.
- from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

13. Nearest source of possible contamination

- \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type
- Well disinfected upon completion? Yes ☒ No ☐

14. PUMP

- Date Installed 6/27/78
- ☐ Not installed
- Manufacturer's Name Gould
- Model Number 10EJ05412 HP 1 Volts 230
- Length of drop pipe 63 ft. capacity 8 p.p.m.
- Material of drop pipe Galvanized
- Type: ☒ Submersible ☐ L.S. Turbine ☐ Reciprocating
- ☐ Jet ☐ Centrifugal ☐ \_\_\_\_\_

16. WATER WELL CONTRACTOR'S CERTIFICATION

- This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
- Donohaver Well & Pump Co. 73061
- Address Route 2 St. Joseph, Mo. 64374
- Signed \_\_\_\_\_ Date \_\_\_\_\_
- Quantia Donohaver 3/2/78
- Name of Driller

5/74 30M

NON-RESPONSIVE

Minnesota Statutes § 54A.01-06

3. PROPERTY OWNER'S NAME

NON-RESPONSIVE

Address

WELL LOG 6

NON-RESPONSIVE

Sketch map of well location.

Additional Name

Block Number

Lot Number

4. WELL DEPTH (completed)

Date of Core

94 ft. 4-26-83

5. ☒ 1" Electric tool ☐ 4" Reverse ☐ 7" Flares ☐ 10" Dig  
☐ 2" Hollow rod ☐ 5" Air ☐ 8" Bored ☐ 11" \_\_\_\_\_  
☐ 3" Rotary ☐ 6" Jetted ☐ 9" Power Auger

6. USE

- ☒ 1" Domestic ☒ 4" Public Supply ☐ 7" Industry  
☐ 2" Irrigation ☐ 5" Municipal ☐ 8" Commercial  
☐ 3" Test Well ☐ 6" Air Conditioning ☐ 9" \_\_\_\_\_

7. CASING

- ☒ 1" Black ☐ 4" Threaded ☐ 7" Above/Below  
☐ 2" Galv. ☒ 5" Welded ☐ 8" Surface ☐ 9" ft.  
☐ 3" Plastic ☐ 6" \_\_\_\_\_ ☐ 7" Drive Shaft? Yes ☒ No  
10 in. to 73 ft. Weight \_\_\_\_\_ lbs./ft. 10 in. to 94 ft.  
\_\_\_\_\_ in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_\_ in. to \_\_\_\_\_ ft.  
\_\_\_\_\_ in. to \_\_\_\_\_ ft. Weight \_\_\_\_\_ lbs./ft. \_\_\_\_\_ in. to \_\_\_\_\_ ft.

8. SCREEN

- Make JOHNSON Or open hole from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Type 55 Dia. 10" teles.  
Slot/Screen 40-10-35 Length 30' 10"  
Set between 73 ft. and 94 ft. FITTINGS.  
\_\_\_\_\_ ft. and \_\_\_\_\_ ft.

9. STATIC WATER LEVEL

- 56 ft. below land surface ☐ above Date Measured 4-7-83

10. PUMPING LEVEL (below land surface)

- 63 ft. after 2 hrs. pumping 230 g.p.m.  
\_\_\_\_\_ ft. after \_\_\_\_\_ hrs. pumping \_\_\_\_\_ g.p.m.

11. WELL HEAD COMPLETION

- ☒ 1" Surface adapter manufacturer Monitor model 10" well  
☐ 2" Basement offset ☒ 3" 12" above grade

12. WELL ROUTED?

- ☐ Yes ☒ No  
☐ Heat Cement ☐ Bitumastic ☐ \_\_\_\_\_

Grout material \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ ft. Cu Yds \_\_\_\_\_

13. NEAREST SOURCES OF POSSIBLE CONTAMINATION

- \_\_\_\_\_ feet \_\_\_\_\_ direction \_\_\_\_\_ type  
Well disinfected upon completion? Yes ☒ No ☐

14. PUMP

- Date installed \_\_\_\_\_ ☐ Not installed  
Manufacturer's Name \_\_\_\_\_  
Model Number \_\_\_\_\_ HP \_\_\_\_\_ Volts \_\_\_\_\_  
Length of drop pipe \_\_\_\_\_ ft. capacity \_\_\_\_\_ g.p.m.  
Material of drop pipe \_\_\_\_\_  
Type: ☐ 1" Submersible ☐ 2" L.S. Turbine ☐ 3" Reciprocating  
☐ 4" Jet ☐ 5" Centrifugal ☐ 6" \_\_\_\_\_

15. WATER WELL CONTRACTOR'S CERTIFICATION

- This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.  
Fischer Well Co. 73135  
License Business Name License No.  
Address Box 1101 St. Cloud  
Signed Keith Donabauer Date 8-9-83  
Authorized Representative  
DAN DONABAUER Date 8-9-83  
Name of Driller Date

5/74 30M  
7/78 30M  
7/78 30M  
2/80 10M

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

Use a second sheet, if needed

IMPORTANT:  
FILE WITH DEED - WELL OWNER COPY

190794

H.E. GUNZ-01